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ABSTRACT

This collection contains descriptions of 10 projects to prepare personnel to provide vocational education to special needs students. Included in each project report are an overview of project goals and activities, strategies found to be effective, problems encountered during the project, major resources required to operate the program, and the materials and expertise that the project has available to share with others. The following issues and training programs are discussed in the individual reports: federal perspectives on preparing vocational personnel to serve handicapped students; collaborative policy development for implementing free appropriate vocational education for handicapped youth; inservice support for the transition from education to work; a training-based, interagency approach to providing a comprehensive vocational special services program to secondary aged youth; training teams for leadership in opening gates; training teachers as inservice education providers; inservice training in delivering comprehensive vocational and career education services; training advisory council members about comprehensive vocational education for handicapped individuals; interdisciplinary personnel preparation in career/vocational education for the handicapped; a cooperative, interdisciplinary personnel development project in vocational/career education for the handicapped; and a master's degree program in vocational/special education. (MN)

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# Vocational Education for the Handicapped: Models for Preparing Personnel

Personnel Development Series: Document 1

Edited by

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Dissemin/Action, Inc.
Falls Church, Virginia

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# INTRODUCTION

Only recently has serious attention been paid to building cooperative relationships between special educators and vocational educators. Leaders in both fields now recognize the importance of becoming knowledgeable about the other discipline. Preservice and inservice education are needed to prepare special educators to plan for the vocational needs of their students and to train vocational educators to work effectively with special needs students. Because interest in such training is relatively new, there is a dearth of resources and information available to teacher educators and staff development coordinators who are establishing or modifying programs. This volume is intended to help fill that gap.

This book describes ten projects that have been funded by the Division of Personnel Preparation, U.S. Office of Special Education, to prepare personnel to provide vocational education to special needs students. The staff of each project tells its own story, giving an overview of goals and activities and then discussing strategies that were effective and problems that were encountered. In addition, each article discusses the major resources required to operate the program and describes the materials and expertise that the project has available to share with others.

The purpose of the book is to provide the benefit of the collective experience of these projects to others. In addition to spreading ideas and information about programs, the authors and editors hope to stimulate networking and the two-way exchange of resources and ideas. Addresses and phone numbers are given at the end of each article so that readers can contact the authors to inquire about materials, request advice, and offer other information and resources. Such personal contact among professionals is one of the most effective ways of stimulating desirable change.

The article by Hagerty, Halloran, and Taymans, "Federal Perspectives on the Preparation of Vocational Personnel to Serve Handicapped Students," presents the Federal viewpoint. The authors provide some interesting statistics on the extent of the problem of unemployment among handicapped individuals and the cost to the public of lifelong dependency. They trace the history of Federal involvement in career/vocational education for the handicapped, giving details from relevant laws and policies. The article describes the funding provided by the Division of Personnel Preparation to train special educators to plan for the vocational needs of their students and to train vocational educators to work with handicapped students. Among these funding programs is Vocational Education--Major Initiative Tracking System (VOC--MITS), which supported six of the ten projects in this book. The article also summarizes strategies that were found to be effective by many of the projects and discusses some common problems.

"Collaborative Policy Development for the Implementation of Free Appropriate Vocational Education for Handicapped Youth" by Howard describes a project of the National Association of State Boards of Education (NASBE). This project differs from others in the book in that it does not provide direct training. Rather, the project staff assist state departments of education in conducting comprehensive needs assessments and developing coherent policies in vocational/special education. The article describes six policy issues that emerged from an earlier study: interagency cooperation, personnel preparation, funding, service delivery/program options, program evaluation, and services to Native Americans and others in planning and modifying vocational education projects. In addition to these issues, the authors describe a systematic policy development process designed for state departments of education. The article details the steps in the process from acknowledging a policy need, through obtaining input, to approving the final policy. The usefulness of the process is not restricted to vocational or special education. It can be followed to develop policy in any area and could be adapted to the needs of other policy-making organizations, such as local school districts.

The next six articles report on inservice projects funded under the VOC--MITS program. McKinney describes an innovative project at the Ohio State University. This program, located entirely in the public schools, focuses on the transition from school to work. For each handicapped student, a support team is selected composed of school personnel, local employers, and others. The team is responsible for developing an individualized educational program that includes vocational objectives. For students who have completed school, the team formulates an individual employment plan for the first year of work. Team members and students receive inservice training according to their individual needs. The involvement of local employers on teams is seen as crucial in developing accepting attitudes on the part of employers and realistic expectations on the part of students and school staff. The project is currently field testing its model in other sites and plans to have a fully replicable model in the future.

The project at the University of Vermont, outlined by Hasazi, provides inservice education statewide and attempts to coordinate the work of all groups in the state that are involved in vocational programs for the handicapped. Inservice training, including courses, workshops, and technical assistance, is provided to regular, special, and vocational educators, human services providers, employment and training personnel, employers, and consumers. Members of the project staff and advisory committee have volunteered to serve on numerous task forces and committees that affect vocational education and employment services for the handicapped. The project is developing a number of useful resources, including inservice modules and a curriculum in career education for handicapped learners (K-12). In order to assess the impact of the project on employment of handicapped individuals, baseline data is being collected statewide on the employment and education status of handicapped persons who left school in the last two years.

"Training School Teams for Leadership in Opening Gates," by Goldman, Flugman, Katz, and Abramson, describes a project at the City University of New York. As the title suggests, the project focuses on training building-based teams of "gatekeepers"--high school personnel such as school administrators, special education coordinators, vocational education supervisors, and counselors, who have the capability of opening gates to occupational training for handicapped students. Team members attend workshops throughout the year and share information with their colleagues. Ultimately, each team assesses its school's services and needs and prepares a plan for vocational preparation of special needs students. The article discusses strategies for gaining access to and exerting influence in public high schools.

The project at the University of Kansas, described in "Training Teachers as Inservice Providers" by Skrtic, Clark, and Bolland, trains teams of teachers from local school districts to design and deliver their own inservice education. The content of the inservice in this case is vocational/special education. However, the emphasis of the article is on the process of training teachers to design inservice, and this process is applicable to any content area. Trainees complete two 3-credit courses based on concepts in curriculum development, and then plan and deliver inservice in their schools. Trainees also conduct courses in developing inservice for additional teams in their areas, thus multiplying the training further.

The project at the University of Tennessee, outlined by McNelly and Brown, focuses its inservice training on the members of multidisciplinary teams responsible for placing handicapped students and developing individualized educational programs. Each participating school district sends a team composed of a psychologist, a special educator, and a counselor to a summer retreat where presentations are made by vocational teachers. During the school year, team members make visits to local industries and businesses and develop a handbook of local employment opportunities for use in counseling students.

"Training Advisory Council Members about Comprehensive Vocational Education of All Handicapped Individuals," by Razeghi and Mullane, reports on a project of the American Coalition of Citizens with Disabilities. In each state, several advisory councils exist that have a large potential for impact on vocational/special education policies. To date, the project staff have conducted statewide training conferences in four states to make advisory council members aware of issues and of the important roles they play in affecting state and local policy.

The final three articles deal with preservice projects. "Interdisciplinary Personnel Preparation in Career/Vocational Education for the Handicapped," by Malouf, Taymans, Beatty, and Kiss, describes a project at the University of Maryland that is directed cooperatively by the Departments of Special Education and Industrial Education. The nine-credit sequence begins in the fall with separate courses for special education and vocational education teachers designed to introduce them to the other discipline. In the spring, trainees participate in a joint seminar and a practicum based on visits to vocational and special education programs in the area. The staff is currently adapting the model to inservice settings in order to have a more comprehensive impact on individual school districts.

The project described by Clark, Parrish, and Kok is a cooperative effort of three universities in Texas: Texas A & M, Prairie View A & M, and Sam Houston State. The project provides training to preservice vocational teachers and to administrators and vocational and special education teachers in area schools. In addition, the project has assembled resources for the use of college and university faculty responsible for preparing vocational and special education teachers. The Vocational Special Needs Library currently has 2000 volumes and a variety of multimedia materials and training programs.

The "Master's Degree Program in Vocational/Special Education" at the University of Michigan, outlined by Markel and Bowen, uses the faculty and resources of the Occupational Education and Special Education programs. Students work toward a degree in either special education or occupational education with a concentration in the other field.

This book was written in the hope that readers would make use of the ideas and information conveyed to improve existing programs and to establish new ones. The authors welcome feedback and the opportunity to enter into constructive dialogue with interested readers. The staff of each project has materials and expertise to share and would like to hear of resources that others have. If this book stimulates networking and the exchange of ideas and resouces, then it will have achieved its purpose.

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# FEDERAL PERSPECTIVES ON THE PREPARATION OF VOCATIONAL PERSONNEL TO SERVE HANDICAPPED STUDENTS

GEORGE HAGERTY, WILLIAM HALLORAN,
AND JULIANA TAYMANS

United States Office of Special Education

We are members of a society that maintains a consuming interest in the value of work. As citizens of the United States, our fulfillment as contributing individuals and our capacity to participate in the full range of societal opportunities are largely influenced by our ability to secure occupational skills and apply them in productive, satisfying, and remunerative ways. As an integral component of this society, handicapped individuals are entitled to equitable consideration for vocational preparation and gainful employment.

Unfortunately, as national statistics illustrate, handicapped citizens have remained critically underrepresented--not only in the workforce, but also in enrollments in the training programs which provide access to the majority of occupations and trades. While announcing the publication of the Federal "Position Statement on Comprehensive Vocational Education for Handicapped Persons," (Federal Register, September 25, 1978) Commissioner Boyer established that:

* Only 42 percent of employable handicapped individuals are, in fact, employed.

* The average weekly wages of employed disabled males in one study were found to be 22 percent lower than those of their nondisabled counterparts.

In a more recent federal review of employment-related data, Halloran (1981) reports that:

* Only 40 percent of the adult disabled population is employed as compared to 74 percent of the nondisabled population.

* Of those employed disabled individuals, 85 percent earned less than $7,000 per year and 52 percent earned less than $2,000 per year.

* 50 percent of all U. S. residents who do not participate in the labor force are disabled.

* 76 percent of all disabled women are unemployed.

These disconcerting national employment figures are somewhat paradoxical when the findings of a 1978 vocational rehabilitation study of 100 large corporations (Boyer, 1978) revealed that:

- 66 percent said there were no differences between handicapped individuals and able-bodied individuals in productivity.
- 24 percent rated handicapped persons higher in productivity.
- 59 percent reported lower accident rates for handicapped persons.
- 55 percent reported lower absenteeism rates for handicapped persons.
- 83 percent reported lower turnover rates for handicapped persons.

In light of these positive findings and in recognition of current affirmative action requirements, the perpetuation of the disproportionate representation of handicapped individuals in the workforce should not only be viewed as an unacceptable social problem, but also as a practice which is indefensible. Employers, for the most part, have demonstrated their willingness to hire qualified handicapped individuals. However, the key to satisfying pre-employment qualifications is handicapped individuals' participation in comprehensive vocational education for handicapped students. Vocational education is critical for the development of the necessary social and occupational skills which may enable handicapped individuals to become qualified for employment --and as a result, to experience independent and highly productive lives.

Assuming that with appropriate education, training, and employment services, the ability of handicapped individuals to support themselves will increase, the question becomes the cost of independence (education and training) versus the cost of dependence (public income maintenance, institutionalization, etc.). In his book, Rehabilitation America, Bowe (1980) cites a study (Berkowitz, et. al, 1977) which indicates that the costs of maintaining handicapped people in dependency roles has dramatically increased over the past ten years. The cost of dependence in 1970 exceeded $114 billion (Rosemiller, Hale, and Frohreich, 1970) and is expected to reach $210 billion in the late 1980's (Bowe, 1980). This would be in excess of the entire HEW budget for FY 1980. These figures may appear to be extreme, but recognizing the validity of even some of the data, the cost of dependency may eventually consume a significant portion of the nation's budget.

Concern about underrepresentation of handicapped individuals in vocational training and employment was reflected in several major legislative efforts commencing in the mid-1970s. The Education For All Handicapped Children Act of 1975 (P.L. 94-142), and the Amendments to the Vocational Education Act of 1976 (P.L. 94-482) and the Rehabilitation Act of 1973 (P.L. 93-112) each placed significant emphasis upon insuring that handicapped individuals have equal benefits and services in vocational preparation and employment programs. The following summaries outline the primary intent of these progressive mandates and the specific implications of each piece of interrelated legislation for the vocational training of handicapped students.

## The Education for All Handicapped Children Act of 1975 (P.L. 94-142)

This legislation is essentially a national special education law charging each state education agency with the responsibility of providing a free and appropriate public education for all handicapped children ages 3-21. Several provisions of the Act which impact on vocational education include:

1. Assurance that individualized, written educational plans (IEPs) will be developed and maintained for each student.

2. A guarantee of complete due process procedures.

3. Assurance that students will be served in the "least restrictive educational environment." Restrictive environments, such as special classes or special schools, are to be used only when the nature of the handicap is such that supplementary services and aids provided in regular classes are ineffectual.

4. Assurance of nondiscriminatory testing and evaluation.

5. Policies and procedures to protect the confidentiality of student records.

P. L. 94-142 incorporates several specific provisions which directly effect vocational education for handicapped students. First, state program plans submitted to the U. S. Department of Education must insure that funds received under the Vocational Education Amendments of 1976 are used in a manner consistent with the goal of providing a free and appropriate public education. Since "appropriate education" is defined to include individualized educational plans, handicapped students enrolled in regular, as well as special education schools or classes, must have IEPs. Secondly, under the full educational opportunity goal, the legislation specifically states that: "State and local education agencies shall take steps to insure that handicapped children have available to them the variety of programs and services available to nonhandicapped children, including. . . industrial arts, home economics, and vocational education."

Note that the definition of special education has been expanded to include industrial arts, home economics, and vocational education. This expanded definition indicates an increase in the role of vocational education as a significant component of the career preparation of handicapped persons at the secondary level.

The individualized educational plans (IEPs) to be developed must include a statement of the student's present level of educational performance, including academic achievement and prevocational and vocational skills. If a determination is made that the learner is deficient in these skills and is in need of remediation, specific short-range instructional objectives, time lines, and a measurable criterion for evaluation in each skill area are to be included in the IEP. To facilitate the implementation of these provisions in vocational preparation programs, comprehensive inservice and preservice training activities should be outlined by state and local educational agencies. Funds to provide inservice training and follow-up technical assistance may be provided under the Act. Provision for the dissemination of current information on research and instructional techniques relative to serving the handicapped in career preparation programs may be available to personnel involved in the process. Such personnel would include, but not be limited to, regular, special, and vocational educators, career guidance counselors, work study coordinators, and job placement personnel.

## The Education Amendments of 1976 (P.L. 94-482)

Title II of this Act represents new federal legislation for vocational education programs and contains a number of new provisions relating to the preparation of handicapped individuals for paid or unpaid employment. The requirements of P.L. 94-482 are consistent with and should be considered in conjunction with P.L. 94-142 and Sections 503 and 504 of the Rehabilitation Act of 1973. These three Acts complement each other and must be implemented in concert. P.L. 94-482 requires states which wish to receive federal vocational education funds to meet the following requirements:

1. Give assurances that federal vocational set-aside monies for the handicapped will be used in a manner consistent with the goals of P.L. 94-142. The state plan for vocational education must be consistent with the state plan submitted under The Education for All Handicapped Children Act.
2. Give assurances that the handicapped (and other special needs groups) have equal access to the programs and services available to the nonhandicapped.
3. Describe programs and services to be provided for the handicapped in annual and five-year state plans.
4. Describe how the program provided each handicapped student will be planned and coordinated in conformity with and as a part of the student's individualized educational program as required by The Education for all Handicapped Children Act (P.L. 94-142, Section 104.182f).
5. Expend 10 percent of their basic state grants on the handicapped and match these federal monies on a 50/50 basis.
6. Insure representation of the handicapped on national and state advisory councils for vocational education.

The above requirements provide increased opportunities leading to the replication of exemplary programs and expansion of such programs to include everyone who can benefit. This expansion will necessitate expanded interagency cooperation between vocational and special education and vocational rehabilitation at the national, state, and local levels.

## The Rehabilitation Act of 1973, Sections 503 and 504 (P.L. 93-112)

Section 503--This section of the Act requires that every employer providing services under a federal government contract of more than $2,500 insure "affirmative action" to recruit, hire, train, and promote handicapped individuals. Those agencies holding contracts of $50,000 or more are required to develop and maintain an affirmative action plan which sets forth policies and practices regarding handicapped employees.

Section 504--This set of regulations prohibits discrimination on the basis of handicap in any private or public program or activity receiving federal financial assistance. It makes specific demands upon public schools, secondary, and postsecondary institutions. This regulation requires agencies receiving federal assistance to insure the following:

1. Provide opportunities, benefits, aids, or services for handicapped individuals equal to those provided for the nonhandicapped, even though these opportunities do not produce the identical result or level of achievement for handicapped persons.

2. Provide aids, benefits, and services for handicapped individuals in the same setting as those provided for nonhandicapped individuals, except in cases where their effectiveness is jeopardized by doing so.

3. Provide barrier-free environments to insure facility and program accessibility.

4. Equally recruit, train, promote, and compensate the handicapped.

In response to these pervasive legislative initiatives, the U. S. Office of Education (presently the U. S. Department of Education) endeavored to promote the translation of principled social concepts (or policy) into practice. This necessitated further clarifying the discrete, yet interdependent roles of the three major agencies at the federal level responsible for the implementation of P.L. 94-142, 94-482 and 93-112, namely the Office of Special Education (formerly the Bureau of Education for the Handicapped), the Office of Vocational and Adult Education (formerly the Bureau of Occupational and Adult Education), and the Office of Rehabilitation Services (formerly the Rehabilitation Services Administration). Initial programmatic cooperation was advanced through the composition of several interagency agreements (October 1977, November 1978) and the publication of the previously cited Position Statement on Comprehensive Vocational Education for Handicapped Persons (Boyer, September 1978). The federal agreements were designed to serve as the cornerstone for the subsequent development of comprehensive agreements at the state and local levels which would more clearly determine specific programmatic and fiscal responsibilities for participating service agencies.

The position statement of September 1978 announced a formal agreement between the Offices of Special Education and the Office of Vocational and Adult Education to establish and meet the objective of insuring the availability and accessibility of an appropriate and comprehensive vocational education for every handicapped student. The responsible agencies were encouraged additionally to coordinate major assessment, training, employment, and other program activities with complementary federal, state, and local agencies, such as vocational rehabilitation, mental health, and similar social service providers. In the interest of full implementation of the position statement, each of the aforementioned offices within the Department of Education have agreed to:

1. Assess and evaluate the progress of the educational community toward achievement of the statement objective (i.e., an appropriate and comprehensive vocational preparation).

2. Develop the primary interagency and intradepartmental agreements needed in the appropriate, comprehensive vocational education effort

at the national level and encourage development of similar agreements at state and local levels.

3. Provide for the effective participation of members of the handicapped population in the policy formulation, planning, implementation, and evaluation of appropriate comprehensive vocational education at national, state, and local levels.

4. Demonstrate national leadership in the recruitment, hiring, and promotion of handicapped persons within the U. S. Department of Education as a model for replication by other national, state, and local public agencies.

5. Reflect the priority of improving appropriate, comprehensive vocational education for handicapped persons in USOE research and developmental activities.

6. Assume leadership for insuring that the civil rights of the handicapped are fully protected in all appropriate comprehensive vocational education activities.

These interagency agreements and position statements underscore the fact that the provision of appropriate vocational training opportunities for handicapped students is not the sole responsibility of any one agency. The department has identified the development of cooperative and integrated services as the key to cost-effective, longitudinal vocational education experiences for handicapped children and youth.

It is evident that, now more than ever, the occupational training needs of handicapped students should be considered of the utmost importance by the special education community. The collective momentum of progressive civil rights legislation on behalf of handicapped individuals, the increasing physical accessibility of facilities, and advances in instructional and adaptive equipment technologies provide for an accepting environment for the preparation and employment of expanding numbers of qualified handicapped individuals. A critical factor in insuring the equitable representation of handicapped citizens in the workforce is the acquisition of occupational skills through vocational training. Since the transition from school to work can be a particularly confounding and often bewildering experience for any person, and especially the handicapped individual, every student must be exposed to a comprehensive program of career/vocational preparation.

Although vocational opportunities for exceptional students have increased over the past decade, handicapped individuals have continued to encounter numerous training-related problems, as reflected in the following statistics (Halloran, 1981):

* Only 2.1 percent of the total fiscal year 1978 enrollment in vocational education programs were identified as handicapped.

* Of the handicapped students enrolled in vocational education, 70 percent were placed in separate classes.

- The handicapped comprised only 4 percent of all persons enrolled in CETA (Comprehensive Employment and Training Act) Title I programs and held less than 3 percent of the public service jobs under CETA Titles II and VI.

Given that the actual performance record of skilled handicapped individuals serves as the most compelling rationale for expanded vocational preparation offerings for the vast majority of the handicapped individuals, correction of the cited program inadequacies is of primary importance.

Many elements are fundamental to the realization of national goals for the provision of comprehensive vocational services to the handicapped student. However, none may be more critical than the preparation of personnel in sufficient numbers and with appropriate competencies to meet the unique needs of this historically underserved population. After an exhaustive study of the status of vocational programming in the United States (1976), the General Accounting Office (GAO) asserted that "the compelling need for adequately trained vocational educators to serve handicapped youth" represented an immediate national agenda.

## PERSONNEL PREPARATION PROGRAMMING

In response to the increasingly pervasive concern expressed by the educational community that the handicapped adolescent did not receive adequate preparation for gainful employment, and that vocational personnel were ill-prepared to educate this population, the Bureau of Education for the Handicapped initiated a training priority in the area of vocational/career education. Administered by the Division of Personnel Preparation (DPP), this training program (or priority) provides discretionary support for the preservice (i.e., full-time degree preparation at the associate, baccalaureate, masters, specialist and doctoral levels) and inservice training of a broad spectrum of service providers. In consideration of the critical need for a full compliment of qualified personnel to insure comprehensive vocational services, the division has expanded its programming efforts to include, not only vocational educators, but also special educators, regular educators, representatives of the employment sector and rehabilitation services, as well as handicapped consumers and their advocates.

The expansion of the target training audience beyond the sole preparation of vocational educators (e.g., to include counselors, regular and special educators, and parents in training activities) is consistent with the OSE commitment to contribute to the development of programming initiatives which reflect current and evolving practices in the school environment. Input from practitioners at the state and local levels suggested that, in order to provide a truly comprehensive career and vocational preparation to handicapped children and youth, it was essential that all of the professionals within a staff receive training. Traditionally, vocational programs which have incorporated the handicapped have experienced limited success as a result of miscommunication, overlapping priorities, uncoordinated service delivery, and misperceptions born of territoriality within the various disciplines. Programming by the Division of Personnel Preparation has promoted the development and implementation of collective training projects which encompass all service providers and all levels of the educational spectrum--from administrators through paraprofessionals and volunteers. It is recognized that this interdisciplinary training strategy significantly enhances the potential for the success of longitudinal career/vocational programming for handicapped youth at the local level.

The Division of Personnel Preparation (DPP) anticipated that preservice funds would be utilized to support the specialized training of a full range of skilled professionals and paraprofessionals to meet the vocational needs of all handicapped children and youth, as established under P.L. 94-142 and complementary federal legislation. Competitive projects submitted under this funding priority were expected to reflect a truly integrated degree program, requiring at a minimum the active participation and collaboration of faculty from the departments of special education and vocational education. Curricular offerings under these progams were to exhibit a combination or systematic blend of vocational and special education competencies. Kochhar and King (1981) have identified ten basic competency areas around which successful preservice grantees developed vocational/special education curricular content. These included trainee knowledge and skill acquisition in:

* The nature of handicapping conditions;
* Vocational assessment/evaluation;
* Instructional methods and materials;
* Vocational guidance, work preparation, and independent living skills;
* Curriculum content;
* Behavior management and classroom organization;
* Organizational planning/inservice training;
* Community resources/parent involvement;
* Law and public policy; and
* Special populations.

Preservice training programs assisted by DPP resources have trained a full range of service providers including:

* Administrators and supervisors,
* Paraprofessional teachers aides,
* Resource/consultant teachers,
* Special education teachers,
* Regular vocational educators,
* Clinicians and therapists,

- Rehabilitation specialists, and

- Vocational assessment specialists.

Although a number of universities have expanded their program capabilities to prepare new personnel who are integral to the provision of vocational education, data from the FY 1980 state plans submitted to OSE indicate that there is a need for an additional 4,370 educators nationally to meet the full service requirements of P.L. 94-142.*

In recognition of the substantial population of practitioners (including vocational educators, special and regular educators, counselors, and parents) who need to acquire and update professional skills. DPP simultaneously provided funds to support quality inservice programming. The need for the concurrent development, dissemination, and replication of preservice and inservice training models across the nation was considered fundamental by OSE staff. Quality preservice and inservice programming cannot be developed in isolation. Although the training settings and modes of presentation in the implementation of preservice and inservice programming may be somewhat different, these personnel preparation activities exhibit more commonalities than dissimilarities in objectives, content, and structure.

## VOC-MITS Programming

In 1978, the Division of Personnel Preparation (DPP) established a national inservice initiative which was designed to respond to the Commissioner's _Position Statement on Comprehensive Vocational Education for Handicapped Persons_ (Boyer, 1978). This national initiative, designated as the VOC-MITS (Vocational Education-Major Initiative Tracking System), was conceptualized to insure the development, implementation, dissemination, and ultimate replication of several cost effective state and local inservice training models. Each project submission was to reflect the following qualities:

_Need_. A clear definition of the scope of the training needs was to be established based upon narrative and statistical data elicited from state and local sources. Data was to be collected from the SEA, LEAs, the employment sector, and handicapped consumers and their advocates, as well as from rehabilitation and human service agencies.

_Planning_. To insure that each VOC-MITS submission was responsive to the particular needs of each segment of discipline in the training population, applications were to be developed utilizing the collective expertise of the resource populations cited in the _Need_ criteria. Aside from its responsiveness to the State _Comprehensive System of Personnel Development_ (CSPD), each proposal was to evidence continuous local (i.e., LEA and community agency) input during the conceptualization and development of the project application.

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* A review of three preservice projects representative of programs developed with the assistance of DPP support is included in this publication (University of Maryland, University of Michigan, and Texas A & M University).

Impact. Each project was to initiate a sequence of inservice activities which would meet the comprehensive awareness, knowledge, and skill needs of all personnel involved in providing career and vocational services to handicapped students.

The intent of programming was to emphasize the preparation of non-educators and support personnel, as well as of those educators traditionally included in state and local inservice activities (i.e., vocational and special educators). The ultimate criteria for the selection of these projects was the ability of the applicant to convey a strong potential for the future replication of collaborative, field-based training activities. Depending upon the content of the individual Needs statements, project activities are specifically targeted upon the competencies required for one or more of the following roles and environments:

Service Roles

* SEA and LEA administrators and supervisors
* Paraprofessionals
* Resource/consultant teachers
* Special educators
* Vocational educators
* Regular educators
* Rehabilitation personnel
* Counselor/guidance personnel
* Employers
* Parents/volunteers/advocates
* Other support personnel (e.g. occupational therapists, physical therapists, school psychologists, and interpreters)

Settings

* Regular vocational classroom (e.g., programs in agriculture, health, occupations, home economics, general business)
* Community college programs
* Job-site training
* Sheltered workshops
* Adapted vocational programs
* Partnership with industry programs

Implementation. It was anticipated that agencies responding to the VOC-MITS initiative would delineate a project design which incorporated:

1. An emphasis on state or local training (as opposed to a national or regional orientation).

2. A range of training activities which would be conducted in settings (and with content) which would encourage collective or interdisciplinary learning experiences, yet allow for each discipline to acquire the unique vocational competencies (knowledge and skills) necessary for the successful fulfillment of critical roles in the educational or placement process.

3. Training content which prepared personnel to implement longitudinal career/vocational programs for the handicapped at the local level. Such training was perceived by DPP staff to encompass the elementary, intermediate, secondary, and postsecondary levels and involve a continuum of programatic areas including: occupational/career awareness, pre-vocational knowledge and skills, vocational training, and job placement. Specific training concerns addressed by the majority of projects included, but were not limited to:

    * Referral, evaluation, and placement procedures;
    * The IEP and individualized learning styles;
    * Career counseling and program planning;
    * Community, employer, LEA, rehabilitation services collaboration;
    * Job placement and supervision;
    * Program/facility/instructional equipment and material adaptation;
    * Instructional methods and practices;
    * Development of LEA action plans (inter-institutional agreement); and
    * Awareness and knowledge training for administrators and other policy makers.

    (While not every VOC-MITS project reflected the training content identified above, each funded program was characterized by its attendance to a substantial number of these areas).

4. A plan for the documentation of all program development, implementation, and evaluation activities. Such endeavors would insure that effective programs, or project components, could be adopted by other state or local agencies.

Evaluation. Applicants were to propose an evaluation design incorporating instruments and data management procedures which insured that assessment information was methodically collected, reviewed and analyzed, and subsequently utilized for project refinement. The evaluation process was intended to provide for an accurate assessment of program function and, at the same time, to allow for a comprehensive documentation of all project activities. The evaluation instruments could include items such as:

- Formal surveys of trainers and trainees and, if appropriate, external agency participants;
- Narrative reports of project activities;
- Anecdotal records;
- Committee or discussion group minutes;
- Position papers and responses; and
- Statistical research related to the measurable impact of the project activities on the primary (trainee) and secondary (school, community, agency environment) audiences.

An initial outlay of $500,000 in DPP resources was targeted for this initiative. Each of the six projects selected to receive support presented a model which was unique in its training design, exhibited promise for replication, and/or addressed an environment or population which posed a compelling training need (e.g., urban, rural, bilingual/bicultural, or low-incidence students). The agencies awarded VOC-MITS support included The American Coalition of Citizens with Disabilities (ACCD), CUNY-Case Research Center, The Ohio State University, the University of Kansas, the University of Tennessee, and the University of Vermont.

Although the following chapters of this publication will delineate the program component unique to each of the preservice projects and inservice projects supported under the VOC-MITS initiative, as well as preservice projects included in this publication, all of these programs do exhibit common elements. The following narrative summarizes the most prominent of these program commonalities.

## EFFECTIVE PROGRAM STRATEGIES

Trainee input is a key ingredient to the design and content of each project's training. Projects remain flexible as they respond to the needs of training audiences. Most projects focus on the formation of partnerships among representatives from various groups such as education, community, and business. Strategies fall into the following five broad categories.

### Problem Solving

The most prevalent strategy reported was a problem solving approach to training. Problems were focused on an individual handicapped student, group, or system-wide need. Generally, such problems were explored by interdisciplinary groups of trainees who were learning about such key issues as employment placement, vocational training, IEP development, inservice training, and organizational change. Working with a reality-based situation tends to promote participant involvement during training and, more importantly, to encourage an action stance after training has ended.

## Team Approach

The formation of interdisciplinary teams to address issues in career and vocational training for handicapped individuals appears to be an important training strategy. Providing the opportunity for professionals from divergent areas of expertise to interact and better understand each other is a first step to broadening services for handicapped individuals. Some projects use trained teams for a multiplier effect, whereby the originally trained teams offer training to other professionals. The team approach to problem solving demands skillful leadership and facilitation skills from project personnel. Yet, such a strategy is a realistic response to the many complex barriers to vocational opportunities for the handicapped.

## Establishing Communication Networks

Establishing channels of communication is a strategy being promoted to increase the involvement of a variety of target groups such as university faculty, school administrators, members of school boards, public officials, and civic leaders in issues related to career and vocational training for handicapped individuals. Projects are involving local education agencies, state education agencies, and advisory groups in planning training activities. Projects are offering technical assistance to interested individuals and groups who are attempting to address issues in this area. Project training improves as an increasing number of resources are developed and more people become involved.

## Establishing Resources

Projects report a dearth of resources on best practices and viable policies for vocational and career service delivery to handicapped persons. Project personnel, as well as project participants, are developing curriculum and training materials. Previously established and newly developed materials are being collected for resource centers and are used in training. Projects are developing manuals and handbooks related to training and policy issues. All projects train their participants to act as resources. Trained personnel are the most valuable resource any project has to offer.

## Training Environments

Many projects report that the training environment has a powerful influence on project effectiveness. Regional workshops which remove people from their normal work environment can have the effect of making participants more open and accepting of training experiences. Practicum experiences, where participants are involved in unfamiliar work settings, are used by a number of projects. Off-campus courses, where specific school district needs are addressed, allow for training continuity and follow-up. Projects that work within a school report success in cultivating the active commitment of school personnel. Faculty and students are benefiting from project activities which are adapting or modifying teacher education curricula in institutions of higher education. The context in which training takes place is an important consideration in establishing a successful project.

## IMPEDIMENTS TO EFFECTIVE PROGRAM IMPLEMENTATION

The success of training projects in vocational and career education for the handicapped is contingent upon the recognition and skillful treatment of potential and existing impediments to project implementation. The road to effective program implementation can be long and circuitous. Project personnel are just beginning to understand the needs, attitudes, and motivations of targeted training audiences. Another inhibiting factor is the lack of established training materials and procedures in this area, causing each project to develop its own content and methodologies. Despite the many potential and existing barriers to project effectiveness, the experimentation with and refinement of training procedures from the represented projects is significantly contributing to the body of knowledge in this area. Described below are the most significant impediments reported by projects.

### Resistance

Resistance, the natural counterpart to any innovative endeavor, is often identified as a problem. Some projects report difficulty in obtaining a commitment to support training activities from school districts and state department personnel. Other projects find that participant insecurity and negative attitudes toward special education or toward the integration of special education and employability training are obstacles to be overcome before content training can begin. All projects report eventual success in gaining access to targeted training populations.

### Lack of Clear Motivators

Project representatives report that appropriate incentives for participation are not always apparent. Projects are dealing with many levels of personnel from state directors to classroom teachers to representatives from the employment sector. Although cooperation has been gleaned from all such groups, it is often not readily apparent how to motivate such diverse groups of participants.

### Need for Administrative Support

Administrative support is seen as a key ingredient for success. School based projects are significantly influenced by principals' attitudes and actions; projects spanning a school district or a state are vulnerable to local and state administrative action, while university projects are dependent on multi-departmental and university approval. Administrative approval and encouragement crucially influence both participant and project staff attitudes, yet they are factors which are very difficult to control. Projects report that time spent in clarifying objectives and discussing anticipated outcomes of training with administrators is a good investment of project resources.

### Communication Needs

All projects are based on developing communication linkages among groups which generally have not worked together. Examples of such communication linkages are interdepartmental programs at universities and the formation of interdisciplinary groups at state and local levels. Interdisciplinary collaboration by its nature is fragile and plagued by misunderstandings. This process/ product training model demands a wide range of communication skills.

Projects report the necessity of expending much time to insure the success of the collaborative process.

## Time Constraints

The impediment mentioned by every project was time constraints. At institutions of higher education infusing concepts in career and vocational training for the handicapped into existing teacher education curricula is constrained by the possibility of eliminating other important teacher education material. When forming interdisciplinary teams in inservice programs, it is often difficult to find common meeting times in members' already busy schedules, even when projects can arrange for released time or offer monetary compensation. State level conferences demand continuity from planning to follow-up. Participants often are not available for planning and follow-up sessions. Yet, despite all the time constraints on both project staffs and project trainees, projects are generally able to keep to timelines and to meet anticipated goals.

Although these five major impediments need to be skillfully addressed, they have been found to be far from insurmountable. While they require the expenditure of project resources, much knowledge is gained with each success.

## CONCLUSIONS

Over the past six years, federal assistance for the preparation of personnel competent to serve the vocational training needs of handicapped students has substantially increased. The projects individually described in this publication represent solid training activities which are part of a growing network of preservice and inservice initiatives. Programs supported by the Office of Special Education alone have made a significant contribution to the preparation of a wide spectrum of educators and related service providers to serve the vocational training needs of handicapped students (see Table 1).

Table 1

Projects Funded by DPP

| Year | # of DPP Projects Funded | Dollars Expended | Numbers Trained |
|---|---|---|---|
| 1975 | 20 | 1,710,000 | 1,285 |
| 1976 | 24 | 2,425,000 | 1,306 |
| 1977 | 38 | 1,700,000 | 1,208 |
| 1978 | 47 | 2,175,000 | 2,137 |
| 1979 | 64 | 2,175,000 | 7,377 |
| 1980 | 72 | 2,175,000 | 10,661 |

The continued development and refinement of effective preservice and inservice training models in vocational/special education is required. Advances in the preparation of committed skilled personnel must accompany the impressive developments in the application of knowledge, theory, and promising diagnostic and instructional practices in a diversity of educational settings. An analysis of graduate impact encompassing the primary (trainee), secondary (services provided to exceptional students), and possibly the tertiary (intergenerational) benefits of selected personnel preparation programs is being developed by the Leadership Training Institute for Vocational/Special Education, University of Illinois. The findings of this study should assist the educational community in assessing the effectiveness of current vocational/special education training models and in defining the areas of program content and management deficits which require future attention.

However, based upon the data currently available from the field, the compelling training needs for the next several years include (Hagerty, 1980):

* The continued expansion, dissemination, and replication of effective school-based inservice training models (for regular, special and vocational educators, support personnel, employers, consumers, and representatives of rehabilitation services) which explore and solidify relationships between the school and work settings, and which rely upon the active cooperation of the service sectors reflected in the VOC-MITS initiative.

* The expansion of training programs which focus upon career preparation (i.e., career awareness, occupational knowledge, and prevocational skills) particularly at the elementary and intermediate levels. Longitudinal career preparation for the handicapped is especially critical, considering that handicapped individuals require accurate career-related information and often must participate in substantial habilitative training prior to their entry into secondary and post-secondary vocational programs.

* The continued program emphasis on the preservice preparation of qualified educators and related service personnel to fill evolving vocational/special education service roles in the areas of assessment, instruction, adaptation of school and work settings, outreach to school community, and employer outreach, and interagency coordination.

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# COLLABORATIVE POLICY DEVELOPMENT FOR THE IMPLEMENTATION OF FREE APPROPRIATE VOCATIONAL EDUCATION FOR HANDICAPPED YOUTH

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## PROJECT OVERVIEW

### Vocational Education for Handicapped Youth

During the past decade educators have become increasingly concerned about the nonhandicapped student who leaves the public educational system lacking the skills necessary to survive in the working world. This concern is reflected in recent legislation such as the Comprehensive Employment Training Act (CETA) and the Youth Employment and Demonstration Projects Act (YEDPA). Yet, little if any concern exists for the handicapped student who leaves school with these very same deficiencies.

This lack of concern and the resulting training and employment problems encountered by handicapped individuals are reflected in the following facts:

1. Of the more than 220 million citizens of the United States, 30 million are disabled. Within this significant population of disabled individuals, over 11 million are potentially employable. Yet of that number, only 37 percent (4.1 million people) are employed--and many of them are underemployed.
2. Only two-fifths of the mentally and physically disabled adults are employed during a typical year, compared with three-fourths of all nondisabled adults. Average weekly wages of employed disabled males are 22 percent lower than those of nondisabled counterparts. These figures become even more dramatic during periods of economic crisis such as high unemployment and high inflation (Levitan and Taggart, 1977).
3. Although P.L. 94-482 (Education Amendments of 1976, Title II - Vocational Education) has a 10 percent set aside of the total grant award for handicapped students, these students comprise only 2 percent of the total enrollment in vocational education programs (U.S.O.E. Report, 1978).
4. Each year approximately 625,000 handicapped young people graduate or terminate eligibility in our nation's schools. Their future is predicted to look like this:

* 21 percent will become fully employed or enrolled in college.

* 40 percent will become underemployed and at the poverty level.

* 8 percent will be in their home community and idle much of the time.

* 26 percent will be unemployed and on welfare.

* 3 percent will be totally dependent and institutionalized.

5. Additional facts include:

   * 2 percent of the four-year college population is disabled. It should be about 10 percent or 11 percent.

   * 3 percent of the community college enrollment is disabled. It should be about 10 percent or 11 percent.

   * Preliminary studies have demonstrated a drop-out rate in high school of about 5 to 6 times higher for disabled students [Hippolitus, 1980].

Factors leading to a minimal participation of handicapped persons in the work force include:

* A perceived decline in the number of handicapped students receiving special education services at the secondary level;

* A failure on the part of special education to prepare disabled students for entry into vocational education (Career and prevocational education needs to be integrated into the special education curriculum.);

* Severe shortage of personnel who are trained in both special education and vocational education; and

* Limited vocational education programs and service delivery options for handicapped students (Howard, 1979).

These disturbing facts illustrate the void in the vocational training of handicapped students to develop marketable skills. Since the transition from school to work is particularly challenging for handicapped youth, comprehensive career-prevocational-vocational preparation is essential.

## Overview of Project

The goal of this project is to develop a collaborative model for the development and implementaton of policies to provide comprehensive, free appropriate vocational education to all handicapped youth ages 15-21. A total of 20 states will participate. At this writing the project is entering its third and final year of operation. During the first project year, a comprehensive needs assessment was conducted. State directors of special education, vocational education, and vocational rehabilitation were interviewed to determine the "state of the art" with respect to vocational education for handicapped youth.

An analysis of the needs assessment data revealed six key issues of major concern to state department of education personnel. They are:

- Interagency cooperation,
- Personnel preparation,
- Funding,
- Service delivery options,
- Program evolution, and
- Services to Native American handicapped youth.

During the second project year, a comprehensive policy analysis was undertaken. State Board of Education policies, state statutes, and administrative directives from each of the project states were collected and reviewed. A grid was developed whereby policies and statutes were codified according to the six key issues. The purpose of this activity was to identify existing policies and statutes related to vocational education for handicapped youth and to provide project states with policy recommendations according to individual state needs. The codified policies and the policy recommendations will be published in a document entitled "Policy Handbook for State Boards of Education."

Project activities for the third and final year of operation will include the identification of best practices and model programs related to vocational education of handicapped youth. A minimum of two practices or programs from each of the 20 project states will be selected for review. A monograph entitled "A Resource Directory of Vocational Practices and Programs for Handicapped Youth" will be published by the end of the third project year. This document will describe in detail a minimum of 40 practices and programs that relate to the six key issues identified above.

In addition to the activities already described, project staff will provide technical assistance to all project states on request. To date, project staff have conducted workshops, chaired state-level task forces, provided seminars to state and local policy makers and administrators, and conducted on-site reviews of projects. Training in the form of technical assistance is a major component of this project.

## OBJECTIVES AND PROCEDURES

The goal of this project is to develop a collaborative model for the development and implementation of policies to provide comprehensive, free appropriate public vocational education to all handicapped youth ages 15 through 21. The National Association of State Boards of Education (NASBE) project staff will provide technical assistance to state-level policy makers and administrators, i.e., state boards of education, chief state school officers, state directors of special education, and vocational education, and vocational rehabilitation, to design a needs discrepancy model to reflect the state of the art relating to vocational education programs for handicapped youth in each participating state. Through a collaborative process with state boards of education and other high level policy makers responsible for special education, vocational education, and vocational rehabilitation, interagency policy options for comprehensive, vocational education programming will be developed and implemented.

In addition to this technical assistance, NASBE will develop an ongoing communication network and series of linkages within each of those states and among the total twenty-four states who will have received technical assistance by the end of the three-year project. This communication network will apprise state leaders in government, education, vocational rehabilitation, industry, business, and labor of the issues and policy implementation efforts of each of those twenty-four states as they move forward in the development of policies and practices for vocational education for handicapped youth. The network of communication linkages will further facilitate the implementation of vocational education programming for handicapped youth on an interstate and intrastate basis.

The project advisory committee in each of the project states will have identified key issues related to the vocational education of handicapped youth. Further, the advisory committees, along with project staff, will have developed a Needs Discrepancy Index related to the key issues. Specific activities targeted to the identified discrepancies will have been completed by the end of the second year. These activities will have been identified jointly by the advisory committee and project staff. A major outcome of the third project year will be the recommendations of policies targeted to the improved delivery of vocational education for handicapped youth.

In year three, a monograph series will be published which will discuss the policy development process and policy options developed and implemented in the project states. The monograph will document each state in the policy process leading to the development of full vocational education services. The monographs will be disseminated to state policy makers responsible for elementary and secondary education, vocational education, and vocational rehabilitation.

## Objective A: Conduct a Needs Assessment in Each New Project State

Key policy makers and administrators who are responsible for special education, vocational education, and vocational rehabilitation services at the state level will assist project staff in implementing a comprehensive needs assessment relating to vocational education programming for handicapped youth with particular attention to Native American and bilingual students in each project state. These participants will include the elementary and secondary and vocational education state boards, the chief state school officer or his designee, and the agency administering the vocational rehabilitation program. An advisory committee will be convened in each of the participating states to provide additional input to the project staff. The advisory committee will provide project staff with a sense of the social-political environment of that state and the probable barriers to implementing vocational education programs for handicapped youth. These participants may include representatives from the American Vocational Association, Native American organizations, bilingual/

bicultural organizations, organizations representing handicapped persons, the state legislature, the governor's commission on employment and the governor's manpower services council, disabled citizens and leaders in the business community, labor unions, sheltered workshops, and industries in that state.

The expected outcomes are as follows:

1. Increased awareness and sensitivity on the part of the key state policy makers and administrators to the vocational education needs of handicapped youth and to the unique needs of bilingual/ bicultural and Native American handicapped youth;

2. Collaboration among key decision makers resulting in interagency policy and program implementation efforts;

3. Increased knowledge and sophistication of key policy makers and administrators of the issues and requirements of legislation and rules and regulations concerning vocational education of handicapped youth;

4. A unique data collection instrument (VEDSI) designed specifically to assess the vocational education needs of handicapped youth at the state level; and

5. The collection and analysis of information that identifies the state of the art relating to vocational education for handicapped youth and that identifies vocational education needs of bilingual/bicultural and Native American handicapped youth.

Objective B: Develop Policy Options

The advisory committee in each project state will meet with project staff to develop a needs discrepancy model. This model will demonstrate the discrepancy between the state of the art in vocational education for handicapped youth and the services which ought to exist as stated in P.L. 94-142 and state mandates. Particular attention will be given to the needs of Native Americans and bilingual children. This model will be used to develop needs for policies and administrative and program guidelines regarding:

* Personnel development,

* Allocation of funding resources,

* Program and curriculum development,

* Identification/expansion/adaptation of ancillary services,

* Interagency linkages for the allocation of human and fiscal resources among those agencies responsible for vocational education,

* Community resources,

* Identification by the advisory committee of specific barriers to policy development and implementations along with delineation of strategies to overcome these barriers,

- Service delivery options,
- Program evaluation, and
- Services to Native Americans and other minority handicapped youth.

The policy options developed jointly by the advisory committee and project staff will be presented during a second on-site visit to the key policy makers who are responsible for special education, vocational education, and vocational rehabilitation (e.g., state boards of education and vocational education). Through a collaborative process these key policy makers will formulate alternative interagency state policies regulating the delivery of vocational education to handicapped youth. The project staff will provide continued technical assistance throughout the duration of the project to facilitate the implementation of policies developed as a direct result of the impact of this project.

The expected outcomes are as follows:

1. The identification and delineation of strategies for overcoming specific barriers to policy development and implementation;
2. Delineation of the special requirements within all project states for change in the educational system to facilitate effective vocational services to handicapped youth;
3. A series of policy options including legislation, rules or regulations, and administrative guidelines developed cooperatively among key policy makers and administrators and project staff;
4. Implementation of policy options at the state level; and
5. An interagency agreement linking the agencies responsible for special education, vocational education, and vocational rehabilitation. This agreement will delineate responsibilities among these agencies to provide vocational education services to handicapped youth.

## Objective C: Dissemination

In order to develop an ongoing communication network and series of linkages both within each state and among all project states, a series of monographs will be published. These monographs will illustrate the strategies developed in each state to implement collaborative plans for vocational education policies for handicapped youth. In addition to these publications, the project's dissemination activities will include presentations by project staff at meetings of organizations whose constituents are involved in the vocational education needs of handicapped youth including Native American and bilingual students. Technical assistance on an on-call basis will be provided to states that are attempting to replicate the collaborative model.

The expected outcomes are as follows:

1. Documentation in all project states of successful strategies for an interactive policy development process which involves key decision makers among representatives of government, education, vocational rehabilitation, and business and labor;
2. A "ripple effect" of the results of the collaborative process developed in the project states to other states, involving the adoption of an interactive policy process to facilitate vocational education services; and
3. Development of a resource guide and policy handbook that will summarize the issues and concerns related to vocational education services for handicapped youth, identify best practices and model programs targeted to those issues and concerns, and contain recommended policy options for consideration by state boards of education.

### Objective D: Technical Assistance

Project staff will provide technical assistance in the form of on-site consultation, seminars and workshops, research, and dissemination of information on existing practices to state level policy makers and administrators, including state boards of education, chief state school officers and state directors of special education, vocational education, and vocational rehabilitation. Technical assistance will be available to all project states on a request basis.

The expected outcomes are as follows:

1. Increased awareness on the part of state policy makers and administrators to existing practices and programs targeting vocational education for handicapped youth;
2. Increased understanding on the part of state policy makers and administrators of issues of concern to them;
3. Development of a communication linkage among state policy makers and administrators;
4. Improved service to handicapped students; and
5. Improved assistance by the state department of education to local school administrators, teachers, and parents and students.

## POLICY ISSUES

A number of policy questions have emerged as a result of various efforts to improve vocational education services to handicapped students at the secondary level through linkages among general education, special education, and vocational education. These questions reflect recent research findings which demonstrate that the percentage of handicapped adults represented in the work force is far less than the percentage of nonhandicapped adults (Levitan and Taggart, 1977).

A national level needs assessment was conducted by the National Association of State Boards of Education (1977) in order to determine the state of the art of vocational education for handicapped youth. Six policy issues were identified in that study. They are:

- Interagency cooperation,
- Personnel preparation,
- Funding,
- Service delivery program options,
- Program evaluations, and
- Services to Native American and other minority handicapped youth.

A summary of the needs assessment data related to each of the policy issues follows.

## Policy Issue 1: Interagency Cooperation

A major thrust at the national level in education is to encourage states to develop and implement interagency agreements. The Bureau of Education for the Handicapped (BEH), Bureau for Occupational and Adult Education (BOAE), and Rehabilitation Service Administration (RSA) co-sponsored a national conference in February 1979 on interagency cooperation. The goal of that workshop was to facilitate the delivery of appropriate comprehensive career, vocational, and special education and rehabilitation services to secondary and postsecondary handicapped individuals.

Workshop objectives were:

- To clarify and review the policy of federal programs in respect to collaborative planning for delivery of special education and vocational rehabilitation services;
- To identify concerns and problems related to the delivery of comprehensive services and discuss possible resolutions;
- To present a process model for developing interagency cooperative agreements;
- To assist state representatives in the initial steps for development or refinement of cooperative agreements; and
- To complete a timeline for completion and implementation of the interagency agreements.

Three major barriers which affect the development and implementation of cooperative agreements have been identified. These are (a) lack of communication, (b) protection of turf or territory, and (c) concern over allocation of fiscal resources. Delineation of these barriers is seen as a prerequisite to the successful implementation of interagency agreements.

Educators, administrators, and policy makers at all levels have expressed their belief that only through a concerted effort in interagency cooperation and linkages can handicapped students be assured the full continuum of services necessary to ensure the smooth transition from public education to the world of work.

Additional issues pertinent to the development and implementation of interagency cooperation include:

- Clarification of existing guidelines and interpretations of rules and regulations;
- Development of a process model(s) for implementing interagency agreements at the local level;
- Consideration of all human service agencies, e.g., mental health, developmental disabilities, department of labor, department of corrections;
- Involvement of postsecondary institutions; and
- Clarification of programmatic, funding, and service delivery roles and responsibilities of all participating agencies.

## Policy Issue 2: Personnel Preparation

Section 613(a)(3) of Public Law 94-142 states that each state shall:

> "set forth, consistent with the purposes of this Act, a description of programs and procedures for (A) the development and implementation of a comprehensive system of personnel development which shall include the inservice training of general and special education instructional and support personnel, detailed procedures to assure that all personnel necessary to carry out the purposes of this Act are appropriately and adequately prepared and trained, and effective procedures for acquiring and disseminating to teachers and administrators of programs for handicapped children significant information derived from educational research, demonstration, and similar projects; and (B) adopting, where appropriate, promising educational practices and materials development through such projects..."

Section 614(a)(1)(c)(i) of Public Law 94-142 mandates that states shall:

> "(C) establish a goal of providing full educational opportunities to all handicapped children, including. . . (i) procedures for the implementation and use of the comprehensive system of personnel development established by the State educational agency under section 613(a)(3)."

The provisions for personnel development in Public Law 94-142 mandate that the Annual Program Plan (APP) of each state specify procedures for implementing a comprehensive system of personnel development to adequately and appropriately prepare personnel for implementing programs for all handicapped children and youth.

A report published by the National Education Association (1978) noted that appropriate staff training, at both the preservice and inservice level, was the single most important factor in the successful implementation of Public Law 94-142. However, as noted by Meers (1980), there exists "very little coordination between universities and the public schools in the planning and delivery of inservice and preservice programs" (p. 248). Meers further states that "the vocational teachers' lack of preparation has possibly been the major contributing factor in the low priority given to including handicapped students in vocational education programs" (p. 248).

For the most part, special educators have little, if any, training in vocational education; similarly, vocational educators have little, if any, training in special education. To date, few states have adopted certification requirements that assure a specified level of competency for personnel who provide vocational instruction for handicapped students. Therefore, there is a need to:

- Amend teacher certification requirements in each state as needed to assure that personnel serving handicapped students receive training covering special education and vocational education;
- Provide meaningful inservice training as determined by a comprehensive needs assessment to special and vocational educators to aid them in providing vocational programming to handicapped students;
- Provide meaningful inservice training to school administrators and counselors;
- Recruit and train minority and handicapped individuals;
- Expand preservice training of school counselors and administrators to include relevant coursework in special education;
- Include procedures for program evaluation, evaluation of trainer competencies, assessment of trainee competencies and their impact on client populations, and follow-up of graduates in all personnel preparation programs.
- Develop dissemination designs for personnel preparation programs that will lead to the replication of effective practices; and
- Include classroom and laboratory research on methods and technology in vocational education and career education for the handicapped personnel preparation programs (Griffin, Clellan, Pynn, Smith, Adamson and La Casse, 1978).

Key questions relating to personnel preparation include:

- Are there separate certification requirements for special education personnel working at the secondary level as opposed to the elementary level?
- Do all general education personnel receive training in special education (e.g., a specially designed course covering the education of exceptional children that is state mandated for all teachers)?

- Are incentives utilized to ensure participation in inservice training programs?

- How are the inservice programs funded?

- How are the inservice programs evaluated?

- Do the recipients of the inservice programs have input into the core planning?

According to the Office of Special Education, the most critical training needs in the next several years include:

- The continued expansion, dissemination, and replication of effective school-based inservice training models (for regular, special and vocational educators, support personnel, employers, consumers, and representatives of rehabilitation services) that explore and solidify relationships between the school and work settings; and that rely upon the active cooperation of the service sectors identified in the Education Commissioner's Statement of September 1978;

- The continued programming emphasis on the preservice preparation of vocational and special educators in career/vocational education to meet the estimated need for 4,370 additional qualified personnel; and

- The expansion of training programs which focus upon career preparation (i.e., career awareness, occupational knowledge, and prevocational skills) particularly at the elementary and intermediate levels. Longitudinal career preparation for the handicapped is especially critical, considering that handicapped individuals require accurate career-related information and often must participate in substantial habilitative training prior to their entry into secondary and postsecondary vocational programs (Hagerty, 1981).

## Policy Issue 3: Funding

A major concern with respect to funding of vocational education programs for handicapped students, as seen by many State Departments of Education (SEAs), is the requirement of matching funds under certain federal initiated programs. Perhaps of greater concern to some SEAs is the question of cost-effectiveness with respect to providing all handicapped students with the wide range of programs and services that have been designated in the IEPs. The following questions reflect many of the concerns as expressed by SEA personnel:

- Is the concept of a set-aside as defined by PL 94-142 necessary? Is it working? Is it too restrictive?

- What are the chances for some federal financial assistance for implementing Section 504?

- Should all set-aside funds under various programs which are targeted to serving handicapped students be consolidated? Would this approach assist or impede increased funding of programs targeted to benefit handicapped students?

* Have all potential resources for funding of "handicapped programs" been identified? (e.g., CETA, Youth Work, Inc.)

* How have the set-aside funds under PL 94-482 been utilized?

* Is it possible, for purposes of allocating dollars, to make a clear distinction between "handicapped" students and "disadvantaged" students?

* Are other states finding it difficult to locate the state's share of the matching funds under the PL 94-482 set-aside requirements?

* Will the implementation of interagency cooperation at the state and local levels assist in alleviating the financial burden for educating handicapped students which now falls on one or two departments within the SEA?

Major obstacles for funding of vocational education for handicapped students include:

* Lack of awareness of available funding sources;

* Insignificant pooling of fiscal resources from different sources;

* Unnecessary restrictions on the usage of the 10 percent set-aside funds; and

* Failure to prove the cost benefits of providing vocational education to handicapped youth.

## Policy Issue 4: Service Delivery Options

Vocational education delivery systems targeted to handicapped students should include the following options:

* Regular vocational education. These programs must be available to all handicapped students who can benefit from regular class placement and who do not require additional assistance. It is important that a close working relationship be established and maintained between vocational education staff and special education staff.

* Adapted vocational education. Regular vocational programs are altered to accommodate special education students. Special materials, instructional aids, and assistance from a special education teacher consultant are examples of program adaptation.

* Special vocational education. These programs are designed for students whose impairment is so severe as to preclude success in a regular vocational program. Training is usually for semi-skilled jobs or for introductory skills. Programs are usually limited to

students placed in self-contained special education classes. Handicapped students may be placed in these programs in order to gain prerequisite skills for entry into a vocational training program or to gain entry-level job skills. Existing sheltered workshop or rehabilitation facilities may be used for training purposes.

* Individual vocational training. The vocational education program is tailored to meet the individual needs of each student. Program may be offered in a variety of settings, e.g., school, community, another district, or work study.

* Pre-vocational evaluation services. This program is designed to provide vocational assessment to students whose disability precludes the use of the regular education sequence. Sheltered workshops, rehabilitation facilities, and private vocational assessment facilities provide this service, usually under contract through the school system.

For each of the above service delivery options, a variety of program services and activities must be provided. Suggestions include:

* Survival skills,

* Basic/functional academics,

* Career education (to include career awareness and career exploration),

* Sheltered workshops,

* Colleges and universities, and

* On-the-job training programs sponsored by business and industry (including unions).

Additional considerations under service delivery options include:

* Modification of programs and facilities where needed;

* Adaptation of devices and other equipment;

* Accessible and available facilities;

* Accessible and available transportation;

* Provisions for deinstitutionalized populations, elderly handicapped, severely disabled, mild/moderately handicapped adults, and minority handicapped,

* Granting of education (academic) credit for all vocational education programs;

* Selection of assessment/evaluation instruments and materials that are nondiscriminating and that have been validated for the specific purpose and population for which they are to be used;

- Provision of necessary auxiliary aides and services; and

- Active participation of parents and handicapped individuals in all phases of program planning.

In response to the question, "What variables are most critical in successfully integrating handicapped students into vocational education programs," three areas were consistently identified by vocational and special educators alike: support from administration; proper preparation, including relevant inservice training; and an ongoing support system for vocational teachers, particularly with respect to special education resource specialists. It is not necessary to make vocational educators "specialists" in the education of handicapped children. By providing them with assistance in adapting teaching strategies to accommodate different learning styles and assistance in simple equipment and classroom modification, vocational teachers experience no more difficulty in teaching handicapped students than they do nonhandicapped students. The key, however, is proper preparation before a handicapped student enters the vocational class coupled with ongoing support from the administrator and the special education department.

One model for providing vocational education to handicapped students involves a close partnership between the vocational and special education teachers. For part of the day, a special education teacher accompanies the handicapped students into the vocational class. He/she serves as a "technical tutor" or "resource specialist" to the vocational teacher. In self-contained classes for severely handicapped students, the vocational teacher serves as a "technical tutor," assisting the special education teacher in developing a vocational education program for his/her students.

Before placement of handicapped students into vocational education, an IEP conference must be held. It is essential that someone representing the vocational education department attend the IEP conference. One of the most frequently cited complaints from vocational educators is that they are not forewarned of the placement of a handicapped child into their classes. Vocational educators are demanding that they be allowed to have some input into the placement process. If this process is not adhered to, the chances for successfully integrating handicapped students into vocational programs are slim, indeed.

Unfortunately, according to the Office of Special Education, only 7.9 percent of the nation's handicapped students have at least one prevocational or vocational education objective identified in their IEPs (Turner, 1981).

## Policy Issue 5: Program Evaluation

P.L. 94-482 requires that the state education agency evaluate the effectiveness of all programs which receive federal, state, and local funds as part of the state's five-year plan for vocational education.

Program evaluation must not be restricted to a formal monitoring and evaluation process. Rather, it must be an ongoing process designed to provide useful and relevant feedback to program administrators. This information can then be used to compare actual performance and outcomes of programs to expected performance and outcomes. Program needs will thus be determined and decisions to modify existing programs can be made with data to back up those decisions.

Longitudinal data on completers and leavers of vocational education programs is desperately needed. What data now exists is rarely used to evaluate the success of vocational education programs. Dissemination of "successful" programs is likewise vitally needed.

## Policy Issue 6: Services to Native American Handicapped Youth

Serious gaps exist in educational services for Indian youth. The situation is even more critical for handicapped Indian youth. Factors which contribute to this condition include:

- Responsibility for educating Indian students is rarely adequately defined between the state education agency (SEA) and the Bureau of Indian Affairs (BIA). As a consequence, too often Indian students "slip through the crack" and receive no formal education.
- BIA rarely provides special education for handicapped Indian students; the same is true for vocational education.
- The terms "handicapped" and "special education" often are interpreted by Indian parents as meaning "crazy" or as having a similar negative connotation. Thus, they are highly resistant to permitting their children to be classified as handicapped. This severely hinders the child find process.
- Prevocational and vocational assessment and training programs designed specifically for handicapped Indian youth are nonexistent in many states and are rarely successful where such programs do exist.
- There is a desperate need to identify vocational training programs for Indian youth, including handicapped Indian youth, in which the uniqueness of Indian cultures and value systems are considered.
- Preservice and inservice training for personnel responsible for the education of Indian youth rarely adequately prepare non-Indian teachers to meet the varied challenges which often confront them.
- Existing vocational education programs targeted to handicapped and nonhandicapped Indian youth must be broadly disseminated so that other providers of similar services can benefit from those programs.
- There exists little, if any, reliable data relative to numbers of handicapped Indians and types of specialized services presently being provided.
- Curriculum, educational materials, facilities, and services are usually outdated and unrealistic for handicapped Indian children, particularly if they reside on a reservation.

* There is an almost total absence of Indian leaders represented at the decision making levels.

Minugh and Tiger (1980) developed a list of nine generic questions to guide the assessment of needs for vocational training for Native Americans.

The questions are as follows:

* What are the feelings about vocational education?

* How much knowledge and awareness do Indians have about vocational education?

* What vocational education programs are available to the community for training and retraining? What vocational education should be available?

* Are Indians taking advantage of vocational training opportunities? To what extent? Do they complete their training?

* Is career counseling available to Indians? Are Indians taking advantage of career counseling?

* What are career/job interests of Indians? Are career/job interests similar to careers/jobs available in the community?

* What employment opportunities are available? Is there a need for training in these areas?

* What are the education goals of people in the community? Is there a need for vocational education to assist in meeting these goals?

* How many Indians are employed as faculty or staff in vocational education?

## THE POLICY DEVELOPMENT PROCESS

The success of a policy development process greatly depends on a) the credibility of those who are recommending the policy options and b) access to those people who are the decision makers. The National Association of State Boards of Education has developed a policy development process that has affected changes in each state in which it was implemented.

Historically, as one looks at the state and local education policy process one can conclude the following:

* The development of a policy resulted most often from pressure or a precipitating event rather than from agency or self initiation.

* The policy development process, if it involved parents, teachers or other constituency groups at all, did so only minimally.

- Most policy statements were broad to the point of being vague; failed to specify clear objectives, clear outcomes or a clear implementation timeline; failed to include within the policy the rationale for the policy; and failed to delineate how or by whom the policy's effectiveness would be evaluated.

- Most policy statements were adopted without a careful review of the costs of implementation, their political implications, or the impact upon other existing policies.

- Only in some instances were all of the policies and their implementing regulations uniformly codified, cross-referenced, routinely updated, and made available to the policy body and to line administrators.

Frequently, the resulting policies were not as effective as they might have been, and the implementation of those policies suffered as a consequence.

However, when a systematic approach to policy development is implemented, state boards are far more inclined to make coherent and systematic policy decisions. Effective policy development depends upon the following principles:

- The rationale behind any policy should be understood by those making it and those who carry it out.

- The impact of the policy should be assessed beforehand.

- Timelines should be established to complete tasks.

- Cost projections should be carefully analyzed.

- Implementation strategies should be worked out in advance.

The National Association of State Boards of Education has been working with state boards to develop a process that facilitates the development of sound policies. The steps in this process are as follows:

1. Acknowledge Policy Need

   The need for a new policy or the need for a policy revision may be brought to the attention of the policy board by a special interest group, the chief state school officer, the governor, the state legislature, an individual board member, or by the regular policy review cycle. The board decides if the issue merits further attention. If the board acknowledges a need for a new policy, a work session is scheduled.

2. Work Session

   The work session is the most important step in policy development. At this point the reasons why a new or revised policy is needed should be fully discussed. Those involved in the policy development or implementation should understand why the policy is needed.

Several key questions should be raised:

* What are the goals?

* Who will be affected? How will they react?

* What will be the impact?

* How will the policy be implemented?

* When will the policy be implemented?

* When will it take effect?

Any political, fiscal, or program limitations should be discussed. At the end of the first work session the board should be able to state, in writing, the goals and objectives of the policy and how it plans to achieve them.

3. Set Time Goals

The board should establish realistic timelines beginning with the date it would like to see the policy formally adopted. Timelines should be set for work sessions, data gathering, and progress reports.

4. Board Seeks Information

During (or shortly following) the first work session, the policy makers must decide what kinds of information are needed before any drafts of the policy can be written. This data gathering should include a review of existing research, a description of the current status of the issue, and a summary of relevant policy activities taken by other states.

5. Constituents' Views

Another valuable source of information is the views of constituents affected by the policy. The board may ask for written comments, establish a task force, or hold hearings. Constituents' views should be obtained early in the policy development process.

6. Progress Report

Before the first drafts of the policy are written, the state board should receive a detailed report on the results of the data collection, including any feedback from the constituency groups. The board should review this report to determine whether the data supports the goals and objectives of the policy. If not, the board may decide to follow an alternative approach.

7. First Policies Draft

The purpose of the first policy draft is to give the state board a full range of options along with information needed to make a wise decision. Accordingly, the first policy drafts should include the following support documents:

- A statement of the rationale for the policy, what the policy hopes to accomplish, and why;
- A timeline for implementation;
- A statement detailing how and when the policy will be evaluated; and
- A projection of possible constituent reaction.

In the case of a particularly sensitive issue, substitute language should be prepared--or even separate policy drafts--each with its own support documents. The board is now ready to discuss the drafts and to suggest any appropriate changes. A legal check should be made of the first draft to determine what effect federal and state laws may have on implementing the policy.

8. Second Policy Draft

The second policy draft should be a polished statement incorporating agreed upon changes. It should also include:

- A statement clearly outlining the goals of the policy and its objective,
- A statement describing how the policy will be implemented, and
- A date when the board will be given an evaluation report.

Other than some minor editorial changes, the board is now ready to adopt the policy, unless they decide they need additional information or feedback.

9. Review of Final Draft

In those cases where more data are needed, the state board may decide to revise the policy's language to reflect this new information.

10. Adopt Policy

The policymakers are now ready to formally adopt the policy. This should occur on or around the target date established months earlier.

11. Monitor and Update

Once the policy has been adopted, it is the responsibility of the chief state school officer to monitor its impact and to furnish the board with interim progress reports at specified dates.

Developing effective policy is neither easy nor quick. It involves interaction among the board, the chief state school officer, and constituency groups. However, the process described above helps to ensure the development of policies that are effective. Figure 1 summarizes the process.

## EVALUATION

An initial version of the policy development process was developed by NASBE, and has been applied in a number of policy areas before the current effort. In each case policy makers had a positive reaction to the process initially, and moved through the stages of the process essentially as the model indicated. Informal feedback from participants in these prior efforts indicated that the original process was believed to be useful, and NASBE has received unsolicited letters noting several instances where the process resulted in the adoption and implementation of substantial policy changes.

In the present project, the original version of the policy development process was simplified into the version described above. Participants from project states have been willing to attempt to use the process after its initial presentation. In each state, the process has begun to operate, moving through the steps of the process as appropriate to the circumstances in their state. Informal feedback and observations of project staff indicate that this process is a useful and, so far, successful approach to policy development.

More formal attempts to evaluate the process have not been made for several reasons. First, formal surveys or interviews of participants would be intrusive and inconsistent with the approach project staff have taken to state decision makers. Second, the outcomes of the process cannot be specified in advance, nor can a timeline for moving through the stages be indicated. The essence of policy development is that the needs should drive the process, rather than the process itself determining the outcomes. However it is believed that continued willingness of key individuals to continue their involvement is a direct indicator of the value of the process itself, since such persons would not continue an effort that they did not believe was worthwhile.

## RESOURCES

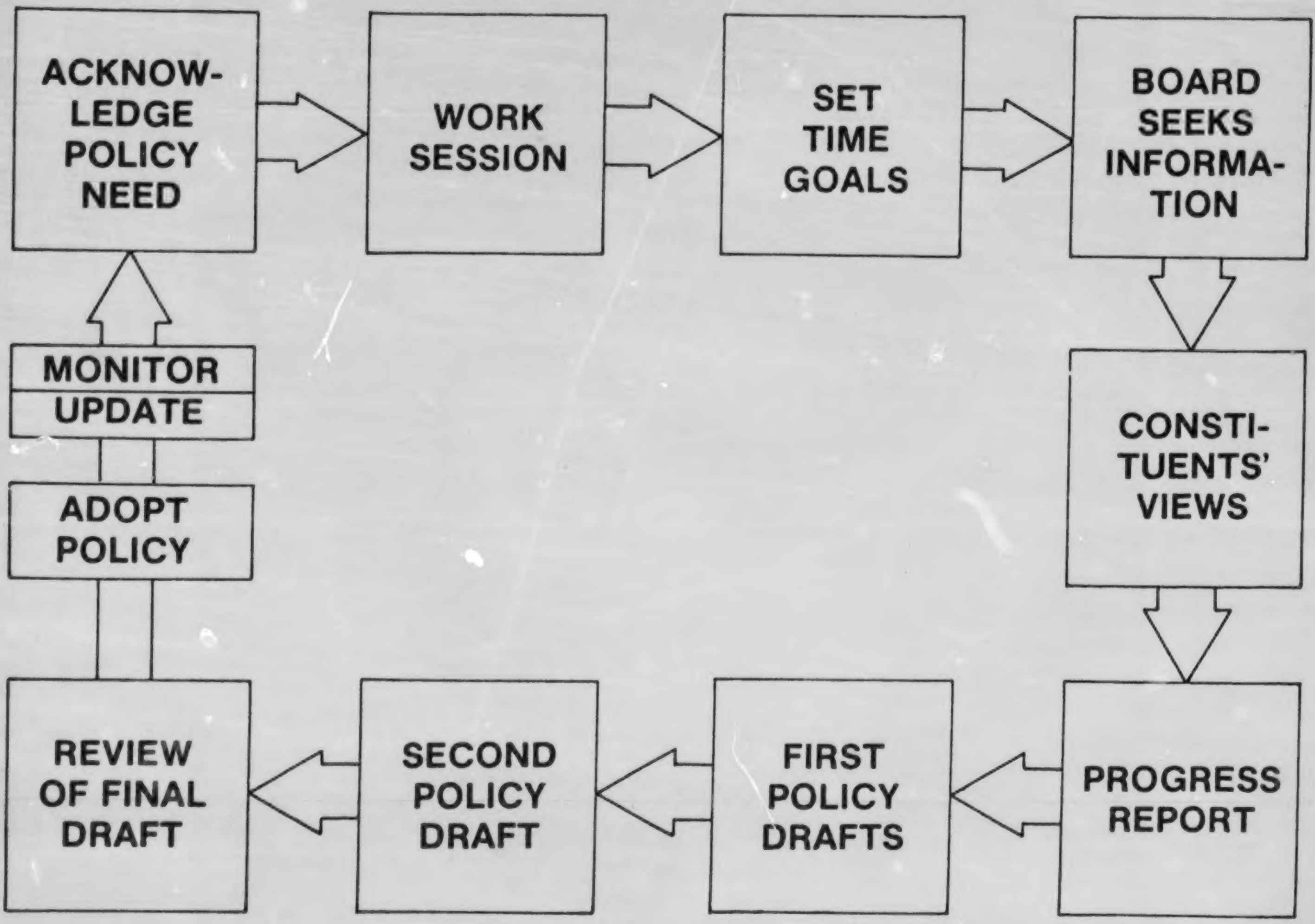
The following products will be published in accordance with the work scope of the project:

1. Vocational Education Data System Index (VEDSI)

   The VEDSI was developed for use in the needs assessment activity. This instrument contains detailed questions which were asked of state directors of vocational education, special education, and vocational rehabilitation. A detailed check list of information sources is also included.

Figure 1

## Policy Development Process



2. State Boards of Education Policy Development Handbook

All codified policies and state statutes from each project state will be contained in this publication. Also to be included is a process model for policy development and implementation.

3. Resource Guide of Best Practices and Model Programs Related to Vocational Education for Handicapped Youth.

Detailed descriptions will be given of a minimum of 40 practices and programs that relate to the key issues identified in this project (e.g., interagency cooperation, personnel preparation, funding, program options, evaluations, and services to Native American handicapped youth). Process for selection of each practice and program and recommendations for implementation will also be included.

## SUMMARY

Access to vocational education for handicapped students is a right, not a privilege. Unfortunately, even with the mandate for providing free appropriate vocational education for handicapped students as stipulated in P.L. 94-142, P.L. 94-482, P.L. 93-312, and P.L. 95-524, only 2 percent of the student enrollment in vocational education is handicapped. This paper has identified some of the major barriers to providing appropriate vocational education services to handicapped students and has recommended a series of changes--policy, administrative, and programmatic--that must be implemented in order to reverse this trend of exclusion regarding handicapped populations.

During the decade of the eighties, educators will have to focus more attention on communication between the education community and the business sector. Also, there will have to be a closer alliance developed among general educators, special educators, career educators, vocational educators, CETA prime sponsors, and business and industry representatives. These "linkages" are critical in light of the proposed budget cuts that will drastically reduce capital outlays in education.

The economic trend for the eighties, as advanced by the Reagan Administration and, to a large degree, subscribed to by Congress, points to less reliance on federal assistance and more reliance on state and local initiative. Therefore, the "agenda" for the eighties will have to focus on interagency cooperation and coordination involving both the public and private sectors. As an example, CETA-education joint activities have demonstrated greater interagency communication on common problems, greater cooperation in planning, and increased sharing of financial resources (United States Conference of Mayors, 1981). These joint activities have also demonstrated the need to prepare young adults to successfully negotiate the transition from from school to work. For the handicapped student, this venture is particularly precarious. One way to "bridge the gap" between the school and the workplace is to upgrade and expand vocational education options at the secondary level and to make all vocational programs available to all students.

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## INSERVICE SUPPORT FOR TRANSITION FROM EDUCATION TO WORK

LORELLA A. McKINNEY

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The Ohio State University

> Elementary, secondary, and adult education must provide the education and training for specific occupations. And cooperation is essential between educator and employers so students can move successfully from school to jobs.
>
> Ernest L. Boyer
> U.S. Commissioner of Education

### PROJECT OVERVIEW

This three-year project is designed to help make appropriate vocational education and opportunities for successful employment experiences accessible to all handicapped youth. How frequently have we known personally of unemployed or underemployed individuals who lacked the opportunity to learn vocational skills, who did not receive needed supportive services, who could not find employment, or who did not continue in employment? The need to improve opportunities for all handicapped individuals, in education and in employment, is documented in the literature and elsewhere in this publication. Both school and community resource persons must help if students are to make a successful transition from school to work, and appropriate training in a variety of skills and expertise is needed to meet the challenge of improving employment opportunities.

This project is located at the National Center for Research in Vocational Education at The Ohio State University. At this writing, the project is beginning the second of three years. The focus of this project is preparing local school and community personnel to provide collaborative team support for handicapped individuals enrolled in secondary and postsecondary vocational education programs. The project organizes teams of persons from the school and community to support students in their transition from education to work. One team is formed for each student. Project staff provide inservice training for team members in the knowledge and skills needed to provide supportive services. The teams for each student include such people as vocational

education teachers, special education teachers, regular teachers, school administrators, guidance counselors, rehabilitation services personnel, parents, guardians, spouses, other family representatives, employers, union representatives, other close friends, specialized service agency personnel, and other supportive services persons.

The project uses a practicum approach for providing inservice education to the team members, i.e., all experiences are given in an applied setting. Theory is applied to practice throughout the many components of the practicum: large and small group sessions, mini-workshops, film reviews, seminars, conferences, IEP (Individualized Educational Program and Individualized Employment Program) meetings, and symposia.

Unique features of the project and its approach include:

- Comprehensive involvement of key local resource persons from both school and community;
- Follow-through support of handicapped students by school-community support teams 18 or more months into employment;
- Inservice practicum experiences involving large and small group sessions and individualized education-work planning teams;
- Cooperative planning and implementation of inservice sessions by support personnel and the handicapped students;
- Involvement of the handicapped students in the inservice experiences of school-community support persons;
- Intensive dissemination and utilization; and
- A comprehensive evaluation design.

The specific objectives of the project are to:

1. Develop and implement practicum pre-planning procedures;
2. Provide individualized, comprehensive supportive services for secondary and postsecondary handicapped students while they are enrolled in vocational education programs and in their transition to work;
3. Develop the awareness, knowledge, understanding, and performance skills of the team members needed to deliver these supportive services;
4. Develop the awareness, knowledge, understanding, and performance skills of the team members, as well as of the handicapped students, regarding employer needs and expectations; and
5. Field test the inservice model and materials in several sites and prepare the model and materials for dissemination and replication.

## PROCEDURES

Procedures utilized to achieve the preceding project objectives include varied methods, processes, and activities. Descriptions of planned activities addressing each objective follow.

### Practicum Pre-Planning Activities

Pre-planning activities include identifying secondary and postsecondary sites, liaison site coordinators, respective handicapped students, and support team members. Educational needs of all these persons are assessed and orientation is conducted.

The following criteria are utilized for selection of the sample of handicapped students at the secondary and postsecondary levels. The sample at each level shall be:

- As representative as possible of the handicapping conditions defined by the Office of Special Education, U.S. Department of Education (deaf, hearing impaired, blind, visually impaired, mentally retarded, orthopedically handicapped, learning disabled, emotionally disturbed, speech impaired, or other health impaired);
- Enrolled in vocational education programs, as representative as possible of the vocational education programs recognized by the Office of Special Education and the Office of Vocational and Adult Education, U.S. Department of Education (agriculture, distributive education, health education, home economics, business and office education, technical education, trades and industry, and industrial arts);
- Balanced with regard to the numbers of handicapped male and female participants;
- Identified as available for project participation six to nine months prior to their program completion; and
- Under the age of twenty-two.

Liaison site coordinators, identified by the chief administrator at each level, select students as a group to represent the student selection criteria.

Student perceived needs are assessed, and the student and school personnel identify support persons they believe can be helpful in meeting those needs. Areas addressed in the needs assessment instrument include job search skills, adaptation of the work site, independent living skills, personal and social skills, legal rights, and financial resources. A field coordinator from the project staff (planning cooperatively with existing support persons, the students, and the liaison site coordinator) searches for, invites, and receives agreements from persons to serve on student support teams and to participate in the project inservice sessions. Support team personnel respond to a needs assessment instrument by rating their needs for preparation to work with students who have specific needs. Also during practicum pre-planning, a local steering committee and a state advisory committee are established; selection for each committee is based upon established criteria.

Orientation to the project is conducted for all selected participants before they are invited to make their agreements to participate in the project. Grouping of individuals for the purpose of orienting them to the project varies, depending upon local site preferences. Student orientation with parent, guardian, or spouse participants usually precedes general orientation for all participants. Cooperative planning for inservice sessions is then done based upon the findings of the needs assessment survey completed by students and by school and community support persons.

## Individualized Comprehensive Supportive Services

Supportive services are provided to the student both in school and during the transition to employment after graduation. An Individualized Employment Plan (IEP) is developed and implemented by the support team with the graduate. In other words, the IEP process and function does not stop when a student leaves school; rather, the IEP continues through life. This project provides continuing team support for each student for twelve to eighteen months following the beginning of employment after completion of the vocational education program.

Since students at postsecondary institutions frequently are not involved in an IEP process, this project gives leadership to establishing an IEP system for students with a team of school-community resource persons to assist. The project also helps the receiving vocational schools to be involved early in planning with feeder schools for vocational education program entry. Provision of individualized supportive services via established school-community teams prior to employment and continuously into employment contributes positively to successful employment of handicapped youth.

Some of the factors hindering student success in working include unrealistic expectations by students regarding work, lack of knowledge about employer needs, lack of confidence and knowledge about job possibilities, lack of job entry skills, such as resume writing and interview skills, lack of awareness of assistance available from rehabilitation services, myths related to what handicapped persons cannot do, and lack of knowledge and understanding on the part of general educators and employers relative to capabilities of handicapped persons.

Employer acceptance is crucial to employment of handicapped persons and to their job advancement; therefore, involving employers on the supportive teams will lead to improved understanding of the capabilities of handicapped persons as well as to changed attitudes of other school-community personnel. As employers learn through personal experience about the value of these persons in the labor market, incomes of handicapped persons will approach equality with those of nonhandicapped employees for equal work performed. It is believed that long-range involvement of individualized school-community support teams will influence the quality of life and independence of disabled persons.

## Practicum Inservice Experiences

Development of awareness, knowledge, understanding, and performance skills of supportive team members and students is accomplished through the practicum format of inservice experiences. Large group inservice sessions are designed and implemented based on needs assessment surveys from student and support team members. Small group inservice experiences are delivered as integral to large group inservice sessions or as separately scheduled sessions in the form of mini-workshops and IEP team meetings to meet needs of small groups or individual persons. Students are included in all inservice sessions. Examples of topics of large group inservice sessions during Year I are as follows: "Orientation to the Project"; "The Handicap Era--What Is Our Role?"; and "Expectations and Preparation for Employment (Employer and Employee Perspectives)."

In IEP team meetings, the student identifies goals, and the support team members consider with the student personal and diagnostic data to assess the reality and feasibility of these goal choices. It is at this point that planning for support services begins. Following mutually established goals, the student and team develop objectives needed to accomplish the goals. Objectives are designed to meet specific needs identified and agreed upon by the team and the student. In this process, additional support persons may be identified to participate on the team. The student and team jointly prepare and approve the specifics of the student program. For each objective of the program a description is given of activities; resources, materials, and equipment needed; the person who is responsible for monitoring the program; methods for evaluation; and records of when each objective is accomplished. Any team member or the student may request team meetings to give needed support. Individuals on the team may have special conferences and experiences jointly with the student. All team members are kept informed of all support experiences provided to the student. Selected films and materials are made available to all participants on a resource schedule to meet individual interests and needs. The mini-workshops based upon needs assessment data and individual interests include topics, such as "Job Interview Demonstration;" "Job Interview Practice Lab" (includes videotaping or audiotaping of interviews for microteaching analysis); "Assertiveness Training;" "Legal Rights;" "Computer Programming Skills for the Blind;" "Adapting and Modifying the Work Site;" and "Financial Resources."

Techniques utilized throughout all inservice experiences are selected for purposes of involving participants actively, not passively in them. Examples of such techniques include the use of panels of employers and employees to present "real" expectations of the working world, sensitivity training, films, role play, simulation, interviewing, exploration of job interests, and shadowing workers.

## Inservice on Employer Expectations

Development of awareness, knowledge, understanding, and performance skills of participants is related to employer needs and employment demands. Involvement of employers and union representatives early in the collaborative school-community support team effort brings current information regarding the employment picture and employer needs to the attention of the student. At the same time, early involvement helps employers and union representatives to understand capabilities of handicapped persons. Even more important is the opportunity over time for employers to know handicapped individuals as "people who can" rather than as "people who cannot." Focus on individual students also helps employers to think of the individual as a person rather than as a member of a category of people who are stereotyped. Large group inservice sessions provide opportunities for employers to become acquainted with a variety of handicapped persons and with other employers. Also, the student and support teams have opportunities in large group sessions to become aware of the needs of other students and other support teams. Involvement, interaction in small and large groups, and communications within and across groups are encouraged. Support teams at all times remind the student of the real world, school, and work settings.

Vocational preparation cannot take place in a vacuum or a sterile laboratory setting. In this program, awareness of the real world and its differences from dependent states and imagined settings becomes an integral part of the school preparation experience. Continuation of school-community support teams during employment makes it possible for them to assist with any adjustments that may be necessary in the work site for the individual employee. It also provides the opportunity for continued inservice and growth of team members, focusing on education in the work arena to enhance success opportunities for the employee. Examples of possible areas for inservice of school-community team members are union benefits, health insurance and retirement benefits, advancement opportunities in employment, self assessment, getting along with supervisors and co-workers, personnel evaluation, work assessment, goal setting, continuing education opportunities, continuing occupational assessment, occupational planning, and mid-career planning.

## Dissemination

Field testing of the inservice model and materials in preparation for dissemination will begin in the second year of the project. Draft inservice materials developed while students are in the school settings will be field tested in Year II. Those inservice materials developed during the first year of employment of the students (Year II) will undergo field testing in Year III of the Project. Other sites for field testing of the inservice materials and the model will be selected to extend the data and experience base to include additional handicapping conditions; additional service areas of vocational education; inner-city, urban, surburban, and rural settings; various types of school and employment settings; and representative geographic areas for particular concentrations of handicapped persons.

Revision of the model and materials will occur following field testing in sites other than the development site. Once the field test sites are selected, the training of new site personnel for evaluation of the inservice materials and the model will take place. Inservice preparation by the project evaluator will be done only for purposes of field testing the materials and the model procedures. Field test data will be returned by site coordinators to the National Center for Research in Vocational Education, which will analyze the evaluation data and revise the draft materials for dissemination and utilization. Both internal and external reviews of revised materials will be carried out.

Determination of the feasibility of the revised model and materials for inservice of support teams will be addressed through analysis of evaluation data from field test sites. In addition, review, reactions, and recommendations from the project advisory committee will be requested regarding the appropriateness of the revised materials and model for dissemination. State advisory committees representing both the development and the field test sites will review the revised package of materials. The National Center project staff will analyze the committee recommendations.

Project staff will refine the inservice model and materials by synthesizing recommendations made by the state advisory review committees. The refined copy will be edited in final form for preparation of the camera ready copy. Duplication or printing of the refined inservice packages will be prepared as directed by the sponsor.

Dissemination and utilization of the project model and materials will occur during the project. At the end of Year I, a conference of selected state directors of special education, vocational education, and rehabilitation services will be held to orient them to the model and to identify field test sites. Criteria for selection of sites will be developed to extend the experience and data base as described previously. In Year II, an invitational conference of appropriate existing dissemination network representatives will be held to design a dissemination and utilization plan specifically for this project package. A project brochure will be developed and disseminated to invite local sites to apply to serve as field test sites in Year III. Agencies interested in replicating this model are encouraged to contact the author.

## STRATEGIES

Although this project is only in the first of three years, there are certain procedures and activities to date which appear to be effective, based on the perceptions of the participants and the observation of the project staff.

### Development of the Individualized Educational Program (IEP)

IEPs are being experienced for the first time at the postsecondary site. Steps used to initiate the IEP process include the following:

- Project director met with postsecondary liaison person to understand existing program planning and registration procedures for students. The concept of the IEP was reviewed, pointing out that the IEP should be unique to their needs but that there are minimum components which should be included. Time was given for the school liaison person to meet with counselors for handicapped persons to discuss IEP merits.

- Liaison person drafted a sample IEP form which was critiqued by site counselors and selected instructors. Form was revised by liaison person based upon their suggestions.

- Project director met with liaison person to review the IEP form. Plans for introducing its use were developed cooperatively by project staff and the liaison person.

- The introduction to developing the IEP was done in a large group inservice session; the remaining time of a two-hour inservice block was spent in individual IEP team meetings, completing demographic information, getting acquainted as a working group, and addressing student needs and corresponding long-range goals. Project staff members rotated among the several IEP groups to be sure that questions were answered.

- * A second inservice session was conducted, wherein the writing of short-range objectives was taught. The remaining time was utilized in continuing IEP team work.

- * Subsequent IEP meetings were scheduled as necessary outside the regular inservice sessions at times convenient for team members.

Students and support team personnel appear to be highly motivated and immersed in the process, for not only are they meeting in full teams to prepare the initial plans, but many support members are also working individually with students. Examples of individual work with students include the following:

- * A clinical psychologist (community representative on support team) works with student on emotional stress problems.

- * A recreational therapist (community representative on support team and graduate student at a large university) is assisting a student in the development of recreational skills and social skills at the YMCA.

- * An educational consultant for the local Epilepsy Association, who is an epileptic, is counseling a postsecondary student who is epileptic.

- * A teacher is working individually with a blind student to adapt many different office practice procedures in readiness for employment. The student wishes to be a medical secretary.

- * A blind employee in data processing is assisting a blind student in job entry skills.

- * A guidance counselor and the support team are critiquing a student's resume in preparation for applying for employment.

This list of very special and unique assistance to students initiated through the IEP process could continue on and on. Team planning sessions have occurred primarily on the campuses and occasionally in student-parent homes.

The situation regarding IEP development in the secondary site is a bit different inasmuch as students who attend this joint vocational school are received from seven feeder or home schools where responsibility for IEP development lies. Through joint planning of project staff and school counseling staff, a new IEP form and process is being readied at the vocational school to have students assessed and individual IEP developed with participation of the vocational teachers in the program planning. Support teams for students are a combination of home school personnel, vocational school personnel, and community personnel. In the past, IEP development has been done at home schools before entry to the joint vocational school; however, counselors and vocational staff members have not seen IEPs for the students they have received. A procedure is now in place through cooperative planning by this project and school staff to prepare teams for this process and to implement ongoing IEP plans for each student, both those new for next school year from the feeder schools and those now in the project sample who are already in vocational programs.

At both secondary and postsecondary levels, the project has succeeded in establishing support team persons which represent both school and community. Prior to the project, support was limited to school personnel and parents for secondary students and to school personnel for postsecondary students.

## Large Group and Small Group Inservice Sessions

Small group and team sessions have been valued most highly by students and support team members. In large group inservice sessions, panels of employers and employees and films have been the most successful techniques. In our experience, team involvement has not been limited by time constraints to the degree that large group sessions have been. For example, if a group session happens to go beyond the scheduled time, participants are very vocal about the fact. On the other hand, if small group or team involvement is scheduled for the last part of the inservice session, it has been our experience that groups will continue voluntarily beyond the scheduled hour for adjournment and praise the meeting for adhering to the time schedule.

## Needs Assessment Inventories

Assessment of needs is deemed essential and effective for planning for inservice experiences by project and school staff. Inventories of needs perceived by both students and support persons have been helpful in planning for the inservice experiences. The planning for large inservice sessions takes its direction from common needs. Needs less frequently identified are addressed in small group, team, or mini-workshop sessions.

## Linkages for Collaborative Team Support

Linkages to provide support for individual students have been established through a combination of several approaches:

* Asking students to indicate their preference of teachers, counselors, and employers to give assistance;

* Follow-up by school and project staff to issue invitations to those persons requested by the student;

* Seeking recommendations from teachers, counselors and placement personnel of the schools for experienced, interested, and committed community persons who are then asked by project staff to serve on student support teams; and

* Seeking further recommendations for possible support team members from support persons already identified.

## Orientation Sessions

Sessions for acquainting students, spouses, parents, teachers, counselors, employers, and other school-community representatives with the project and its purpose have been successful. Parents, in particular, and many teachers have responded in written comments that a program such as this is most appropriate and needed. End-of-the-year comments from teachers included the following:

- "Excellent individual attention from knowledgeable persons."

- "Project Transition came at a very good time for [name withheld]. She had lost interest in school and with the help of the project and the personal interest in her helped her regain it at the end of the year."

- "Honest, straightforward talks with the student on strengths and weaknesses--IEPs. I believe she has more confidence in herself and her abilities. She is gaining respect for herself--slowly. If she can follow through with IEP goals, she could show GREAT improvement."

- "By getting the student to better understand how important it is to stay on an assigned job, making out job interview papers (resumes)."

## Identification of Resources

Resource films, materials, equipment, and persons have been identified to meet the unique needs of the students and the training needs of the teams. Identification has occurred through varied approaches:

- Materials have been identified from several sources, including:

    (a) Abstracts of existing, recent literature searches in the National Center Library;

    (b) Catalogs of the regional resource center for special education instructional materials established by the State Department of Special Education;

    (c) Catalogs of materials in the Curriculum and Media Resource Center of the College of Education, The Ohio State University;

    (d) Published lists of current materials from publishers, Governor's Committee on Employment of the Handicapped, etc;

    (e) Advertisements in periodical literature;

    (f) Recommendations from the Faculty of Exceptional Children, The Ohio State University; and

(g) Other miscellaneous sources resulting from personal contacts with leaders in the field.

- Materials have been selected, reviewed, and annotated, based upon the objectives of this project and needs identified for students and support teams.

- Films have been selected, reviewed, annotated, and scheduled for showing to all support team personnel and students, as well as to individuals and small groups who are interested.

- Special equipment and strategies for adaptation have been identified and cited as individual needs and IEP objectives are developed.

- Resource persons on call have been identified and utilized in addition to support team personnel; these have been identified as important extensions of the support teams because some specialized expertise may be needed temporarily and because some community resource persons wish to be involved with the project but cannot give the continuous time required for the support team members role.

## Building Rapport with School Personnel and Using Effective Planning/Implementation Procedures

Initial personal contacts with school administrators are made by the project director. Follow-up orientation to the project is done at secondary and postsecondary sites with a school-designated coordinator. Each site coordinator works closely with the project field coordinator and other project staff in planning and implementing inservice sessions. Cognizance of existing procedures in place at each site and careful and clear coordination and scheduling of activities are important. Every effort is made by project staff to build on and enhance existing practices. The role of the field coordinator has greatly augmented the establishment of broadly-based support teams and the IEP process at the postsecondary level. Thus far, there is every indication that this joint planning and implementation process will continue to be successful and to grow. Because of the early inclusion of employer personnel on the support teams, it is anticipated that these employer representatives will influence greatly the success of the continuing planning and implementation of inservice sessions after the student becomes an employee.

## Democratic Principles of Education

Democratic principles emphasized in this model include the following:

- Meeting individual needs of handicapped persons for education and employment (strategy: building on and extending the use of the IEP for secondary and postsecondary students);

- Involvement of school and community support persons and handicapped individuals in cooperatively planning for and working out solutions to individual and mutual problems related to assistance to handicapped students;

- Demonstration of valuing the dignity and worth of each individual involved;
- Use of group process and dynamics to establish communication among all individuals involved in the project; and
- Promotion of interaction and involvement based upon objectives among group members and among groups.

Underlying all principles and strategies are the beliefs in the optimal development of individual human potential; the achievement of that potential by acting in concert with others; a faith in intelligence as a method of solving problems; effective utilization of varied expertise focusing on common interests, needs, and objectives; and ongoing evaluation techniques to assess the effectiveness of the methods and principles employed.

## PROBLEMS AND SOLUTIONS

An initial problem occurred in enlisting local participation at the secondary level. A number of reasons for non-participation were given by administrators of three large school districts, such as (a) too many teachers new to the system, (b) not interested in participating at this time, (c) preference to work on state program in rehabilitation, (d) undergoing reorganization to the middle school concept, (e) reluctance to involve teachers in the additional paper work, (f) responsibility overload of work study coordinator working with feeder schools, (g) fear of financial commitment (difficulty in passing operation levies), and (h) lack of stipends (even though the project budget for stipends was made known three times prior to the announcement of this administrative decision). All of the preceding reasons were given in spite of the generally known fact that high school vocational teachers of handicapped youth are requesting assistance daily. A reason advanced by a superintendent when he was asked why the problem exists of enlisting participation at the high school level was as follows, "We have been burned previously by state and federal projects.' He further added, "Money is so tight at this time that I will take no risk of committing ourselves to anything which may cost this district money."

"Time" is probably the primary problem experienced to date for implementing as much inservice as deemed desirable by project staff and by school-community participants. A combination of "finding enough time" available and of overcoming "schedule conflicts" of the participants who are already employed full-time, presents a challenge for planning and implementation. To address the problem of the time factor, we have offered multiple and varied opportunities, such as five large group sessions planned for all participants; individual meetings scheduled for students and support persons who have regular schedule conflicts with large group sessions; IEP team meetings scheduled for all teams to meet simultaneously; IEP team meetings scheduled by individual teams; mailing all handout materials to all participants who have been unable to attend at any given time; offering seven or more one-hour sessions to meet individual needs, announced and described in advance; and seven or more films focusing on individual needs and scheduled on different days. It is too early in the project to speculate what resolutions of this problem are feasible at other sites (we will learn through field testing in years two and three). Similarly, it is not known what new or different time limitations will arise and what delivery modes may be effective in providing inservice support to the employee.

It is recognized that attitudes of and toward handicapped persons affect behaviors of people at all levels of school, community, and society. Several indirect approaches and beliefs have been built-in, practiced, or implemented to address this potential impediment to success. Much time has been spent by project staff and school liaison persons in clarifying the purpose and objectives of the project; identifying community support team members who want to serve this need and can commit a reasonable amount of time; planning and implementing inservice experiences which meet needs of those involved; involving students and support persons personally and directly so each will understand and respect one another's capabilities and strengths; implementing individualized learning experiences; offering varieties of topics and placing responsibility for choices of topics for participation on the individual; and selecting individuals to lead inservice sessions who, because of in-depth knowledge and understanding and ability to present, are dynamic presenters or topic leaders. Getting and maintaining the interest and involvement of all participants are key elements underlying and permeating all inservice experiences. In our project thus far, attitudes have not been an impediment to success once sites were selected and committed and participants were identified as previously described.

In those instances where there was difficulty initially in enlisting full-time involvement of school-community support persons needed for IEP teams, linkages of volunteer part-time resource persons to work with team members have been established. This approach has served significant needs of both students and support team members at various times. Good communication linkages and the continuing flow of communications vertically and horizontally are keys to successful involvement of both full-time and part-time participants in the project.

Potential problems may occur in establishing field test sites, although the National Center for Research in Vocational Education has not had such problems with previous projects. Several state department level directors and local site directors who have learned about our project have already expressed an interest in being involved in the field test procedure.

Lack of state legislation in some states may impede delivery of quality education experiences for some handicapped youth after completing high school offerings and before reaching the age of twenty-two. It has been brought to our attention that some students are being served poorly in the public secondary schools in some states from the time of high school graduation eligibility until they reach age 22 because the state has no requirement for providing free public education beyond high school. A few states are attempting to pass legislation (some already have) to provide free public education to age twenty-two in any state education agency.

Lack of early involvement of vocational teachers in the IEP process is a grave potential loss to students and to teachers. Teachers of general, special, and vocational education have responsibility for student placement in the least restrictive alternative by federal law. Through involvement of all teachers in the IEP planning process, each teacher has an opportunity to learn from all support team members; consequently, the quality of teacher experience to support the student is improved.

# EVALUATION

Implementation of a continuous, comprehensive evaluation plan is an integral part of the project design and of the practicum format for inservice experiences. The evaluation design is based on the discrepancy evaluation model. This approach views evaluation as the process of agreeing upon program standards, examining performance to identify discrepancies between performance and standards, and taking action where serious discrepancies are identified. The standards agreed to are the major components of the inservice program--its objectives, procedures, activities, and resources. Where substantial discrepancies between performance and standard occur, a decision is made to improve performance in that aspect of the program, to change the standards toward greater realism, or to terminate that aspect of the program.

For this project, five evaluation questions were posed:

1. Was it feasible to implement the draft model in Year II selected sites?
2. Did secondary and postsecondary handicapped students receive individualized support services as a result of the implemented draft model?
3. Did support service personnel participants develop the understanding, knowledge, and performance skills needed to deliver individualized, comprehensive support services to handicapped participants?
4. Did handicapped participants develop the awareness, understanding, and performance skills needed to meet employer needs?
5. What materials were disseminated on the project? How did recipients respond to them?

A variety of sources of information will be used to address these questions as the project develops:

## Model Implementation (Question 1)

Local coordinators will rate management and the delivery of an orientation to the project. Coordinators will be observed while they conduct practicum support experiences. They will also maintain logs related to problems with and recommendations for the implementation of the model at the local level. An instrument will be used to record dates of activities, the number and types of participants, the facility used, and the materials used. School officials will complete a questionnaire assessing the characteristics of sites which participate in the testing of the model. A second questionnaire and an interview of school officials will explore the types of linkages which exist between the school and other community resources. A pretest questionnaire and interview of the local site coordinator will assess the assistance needed from project staff. Observations of and meetings with project participants will assess administrative support for implementation of the model. Finally, the transportability of elements of the model will be assessed by examining project records and meeting with the local coordinator and project staff.

## Individualized Services (Question 2)

The quantity, frequency, and source of services to handicapped participants will be measured before and after their involvement with the project. The coordinator will maintain a log describing problems with the delivery of service and stating recommendations for future delivery. The individualized employment programs will be reviewed to determine the support services that are provided as a result of the project.

## Individualized Support Service Skills (Question 3)

Support personnel receiving training will be tested before and after training on the content (e.g., IEP, legislation). Support personnel will be observed by local coordinators and National Center staff to determine their performance skill in delivering services during a role play simulation exercise. Handicapped participants will rate support personnel. Support personnel will complete instruments recording the amount of time and the resources spent in delivering service, as well as the place of delivery, the service given, and the outcomes achieved. Changes in knowledge and skills will be assessed by comparing pretest and posttest performance on appropriate measures.

## Skills of Handicapped Participants (Question 4)

Project staff will develop measures to be used before and after involvement to assess changes in knowledge of employer needs. The local coordinator will observe participant skills in meeting employer needs through role-playing simulation experiences. The local coordinator will also maintain a log based on conversations with employers about each participant.

## Dissemination of Project (Question 5)

The number of requests for the project model and materials will be recorded. Questionnaires will record suggestions for enhancing the dissemination effort from participants in the National Symposium I. Project participants will complete evaluations of individual films, handouts, and other materials used during inservice sessions.

The first year of the project is devoted entirely to development of phase one of the transition model and inservice materials. Pretest and posttest information will be collected in the field testing which begins in year two. Forms of evaluation utilized at the developmental site in year one are log documentation, needs and interest assessment, and participant evaluation of inservice sessions.

## RESOURCES

Federal funds have been available from the grant to support project staff and to provide small stipends for the schools to utilize to provide incentives to staff for additional expectations and involvement, to release staff for inservice experiences through hiring substitute teachers, or to provide experts for special inservice purposes. At this time, stipends are needed at the secondary level for involvement of teachers beyond the regular school day for inservice and at the postsecondary level for engaging expertise in adaptations needed for severely handicapped student needs.

State and local funds have been shared very freely through extensive planning time of personnel on a continuous basis and the use of large and small group facilities and equipment. Preparation of project materials in large print and in Braille has been provided by the local agency. Also, interpreters for the deaf have been furnished locally as needed at no cost to the project. Community resources have been supplied at no cost to the project through large and small business, industrial, and government personnel involvement in inservice experiences with students. Sharing of materials and media resources have occurred throughout schools and community agencies to support needs.

This project is developing a model practice and materials for dissemination to other agencies and areas. Since the project has just completed its first year, these materials are not yet available. Plans for field testing and dissemination of the inservice package were discussed in the Procedures section above.

## RECOMMENDATIONS

Recommendations which follow are based on nine months of project inservice experience and project evaluation feedback. It is recommended that:

- Concerted efforts be made to develop the understandings and commitment of administrators at all levels (local and state) to facilitate meeting the support needs of handicapped students in vocational education;
- A part-time or full-time position of field coordinator be established to develop and coordinate school-community linkages and resources to support handicapped youth in their transition from school to work;
- Community resources be broadened and extended in existing teams for IEP development for handicapped youth;
- Early involvement of school-community resource support persons occur for individual students who are handicapped;
- Funds and resources (materials, equipment, facilities, and persons) from federal, state, and local sources be shared at the local level to enhance transition experiences of handicapped youth;
- Inservice experiences be provided with the focus on IEP development and implementation (note that for purposes of this project, IEP represents individualized education program for students in school and represents individualized employment program for employed youth);
- Patience, understanding, sensitivity and organization skills be represented as essential ingredients of leadership for successful inservice experiences in the project model;

* All inservice experiences be based on objectives designed to meet project objectives and the specific needs of students and school-community resource team members; and

* Evaluation feedback be integral to all model procedures and to all inservice experiences and materials.

Future programming directions include the following foci for the remainder of year one and years two and three:

* Orient selected state department teams to the project and year one draft inservice materials; solicit nominations from teams for field test sites;

* Continuation of planning and implementation of inservice experiences in years two and three with original students in sample in the employment role and with the school-community resource support team members;

* Field test of draft inservice materials and practices from year one in sites other than the developmental site;

* Revision of years one, two, and three draft inservice materials based upon field test data and internal and external reviews;

* Convening of representatives of existing dissemination networks or systems appropriate to targeted marketing/consumer groups for inservice package use to design a dissemination/utilization plan for products of this project in years two, three, and following the end of the project;

* Preparation of project brochures and mailing of them via the dissemination and utilization plan specific for this project (purpose of brochure is two fold: disseminate information about the project and receive nominations for field test sites for year three);

* Preparation of project articles for periodical and newsletter publications and of presentations at appropriate annual conferences;

* Refinement of revised draft inservice package, based upon critiques by the state advisory committees and the project advisory committee;

* Conducting of a national symposium jointly sponsored by the National Center for Research in Vocational Education and the National Leadership Training Institute in year three to orient participants to the inservice package ready for dissemination;

* Providing the inservice package on a cost-recovery basis at the National Center for continued dissemination; and

* Providing workshops and conferences regarding the inservice package through field requests to the National Center Academy.

## Summary

Twenty students enrolled in secondary and postsecondary vocational education programs are presently receiving support from approximately one hundred fifty school-community persons in inservice experiences. It is intended that the field testing of the model and materials will extend the service areas and the nature of handicapping conditions represented in the development phase of materials. It is further anticipated that the inservice model and its inservice package will be replicable in many different secondary and postsecondary sites. Any conditional elements or limitations for replication of the model and materials must await field testing and reviews in years two and three.

A great deal of positive feedback has been received to date from participants. It is hoped that this established interest and these positive trends will continue through the remainder of the project and after its completion.

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# A TRAINING-BASED, INTERAGENCY APPROACH TO PROVIDING COMPREHENSIVE VOCATIONAL SPECIAL EDUCATION SERVICES TO SECONDARY AGED YOUTH

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## PROJECT OVERVIEW

### Goals and Objectives

The major goals of this project are (a) to increase significantly the number of handicapped individuals engaged in remunerative work upon graduation from public schools in Vermont and (b) to ensure that plans are made by the public schools and adult service providers to ensure that individuals who are not employed upon leaving school receive further training and support which prepares them for employment. To achieve these goals, a series of inservice training opportunities (including consultation, workshops, and courses) are being provided to special and regular educators, vocational educators, human service providers, employment and training personnel, employers, and consumers.

The ultimate benefactors of the inservice training are the elementary and secondary aged handicapped children, youth, and young adults in Vermont. The inservice training base established by the Special Education Program at the University of Vermont is being utilized to expand the training network to include vocational educators and career and vocational curricular areas. Special education teachers, of mildly, moderately, and severely handicapped students are also receiving additional training to ensure that Individualized Educational Programs (IEPs), developed for the handicapped students whom they teach, address career and vocational education and training needs. Human services providers and employment and training personnel are receiving training with special educators in the development and monitoring of job placements, so that students in need of adult services following graduation or exit from high school will receive such services. Most significantly, these services are being delivered in a systematic, coordinated, and comprehensive manner.

The specific objectives of the project are as follows:

1. To establish and convene an advisory council of professionals and consumers for the purpose of mutually addressing vocational/ special education and training and job placement of handicapped youth as they relate to the project's goals and objectives.

2. To design, implement, and evaluate a series of instructional modules on (a) eliminating attitudinal barriers and environmental barriers to vocational training and employment for handicapped youth, (b) job development, (c) job analysis, and (d) job coaching.

3. To design, implement, and evaluate a three-credit-hour course for vocational educators on instructional technology related to teaching handicapped students in mainstream vocational education settings.

4. To design, implement, and evaluate a series of instructional modules on the development and implementation of Individualized Educational Programs (IEPs) which include Individualized Employability Plans.

5. To develop a learner-centered objectives-based curriculum on career education for handicapped learners. This curriculum will be used by special educators in formulating annual goals on IEPs related to career education.

6. To design, implement, and evaluate a series of instructional modules on the development and implementation of Individualized Educational Programs which include annual goals on career education for all handicapped learners (K-12+).

7. To cooperatively plan, conduct, and evaluate seven regional inservice workshops with the Division of Special Education and Pupil Personnel Services, Vocational Rehabilitation, Division for the Blind and Visually Handicapped, and the Comprehensive Employment and Training Office (CETO).

8. To design, implement, and evaluate a series of inservice courses that teach the basic skills, knowledge, and attitudes related to job development, job analysis, and job coaching.

9. To include content on career education, individual employment plans, job development, job analysis, and job coaching in the University of Vermont's elementary, secondary, and special education pre-service, graduate coursework.

10. To provide consultation and technical assistance to special educators on the design and implementation of exemplary job development and training services for handicapped students.

11. To design a data collection system that will provide the information necessary to monitor progress in increasing the number of handicapped persons employed.

12. To develop a plan in cooperation with the Comprehensive Employment and Training Office (CETO), independent employers, the Vermont Department of Employment Security, and the recently formed Private Industry Council/National Alliance of Business (PIC/NAB) to (a) disseminate information to employers regarding the value of employing handicapped persons, (b) develop affirmative action plans, and (c) identify resources available to provide on-the-job training to handicapped persons.

13. To disseminate information on project processes and outcomes both locally and nationally.

14. To monitor the impact of the proposed project by conducting a series of evaluation activities.

## Procedures

At the time of writing, the project had completed the first year of a three-year program. The first phase of the project involved a planning effort which included the State Department of Education, the Division of Vocational Rehabilitation, the Comprehensive Employment and Training Office (CETO), the Department of Mental Health, the then National Alliance of Business, the Vermont Association for Retarded Citizens, and selected departments within the University of Vermont. The topics of increased career and vocational training and placement opportunities had been identified as areas of concern by state education and human services agencies and consumer advocates. All of the above-mentioned agencies and organizations were contacted individually and asked to delineate inservice training activities for their professionals that would provide added awareness and skills relative to career and vocational training of handicapped individuals. All of the agencies and organizations indicated a willingness to participate and suggested a variety of inservice activities including technical assistance, university courses, and workshops. The majority of training opportunities that were suggested included professionals across a number of agencies in cooperative, interagency initiatives.

Following the initial planning, a second phase was developed with the participating agencies which resulted in an overall design for delivering cooperative, interagency inservice training. It appeared that a number of professional groups, employers, and consumers needed training opportunities to increase their awareness of the potential of handicapped individuals in acquiring the skills and attitudes needed to function successfully in the world of work. Additionally, selected educational and human services professionals directly responsible for training and placement of handicapped individuals needed additional training in the technology of teaching those critical skills and attitudes to handicapped individuals. Hence, the intensity and content of the training opportunities varied as a function of the contact and responsibility that each professional group had with handicapped individuals.

Courses, workshops, and technical assistance activities were designed by the project to meet the needs of different professional groups. A course was developed for vocational educators on individualizing instruction for special needs students. A second course, aimed at secondary special educators, guidance counselors, and other human services providers, dealt with comprehensive career programming for handicapped students. In addition, a variety of workshops on career development, vocational training, job placements, and individual employability plans were provided at locations around the state. A variety of vocational educators, special educators, and other professionals received technical assistance in developing and implementing programs for handicapped students. Chart 1 lists the courses, workshops, and technical assistance included in the project design.

## Chart 1

### Courses, Workshops, and Technical Assistance

### COURSES

EDSP 292: Individualizing Instruction for Special Needs Students in Vocational Education.
When & Where: Summer 1980, 2 sections White River, 2 sections Lamoille.
Target Audience: Mainstream vocational educators.

VOTC 275: Individualizing Instruction for Special Needs Students in Vocational Education.
When & Where: Fall 1980, 1 section southern Vermont; Spring 1981, 1 section Northern Vermont (Burlington), 1 section central Vermont (Barre).
Target Audience: Mainstream vocational educators.

EDSP 218: Comprehensive Career Programming for Secondary Level Handicapped Students.
When & Where: Fall 1980, 1 section central Vermont (Barre); Spring 1981, 1 section southern Vermont (Rutland).
Target Audience: Secondary special educators, vocational guidance counselors and human services providers.

### WORKSHOPS

Career Development for Handicapped Children & Youth.
When & Where: 1-day workshops at 5 regional sites.
Target Audience: K-12 Special Educators & Guidance Personnel.

Models for Vocational Training & Placement of Handicapped Youth.
When & Where: 7 days in northern & southern sites, Nov.-April.
Target Audience: VR Counselors & Secondary Special Education Work Placement Coordinators.

Workshops on Job Development & Placement of Handicapped Individuals.
When & Where: TBA
Target Audience: CETA Employment & Training Specialists.

Career Development Components of IEP's for Secondary Level Youth.
When & Where: 1-day workshop at 2 regional sites.
Target Audience: Secondary Special Educators & Secondary & Vocational Guidance Counselors.

Workshops on Career Development for Asset Inservice Regions.
When & Where: Ten, by request.
Target Audience: Public School Personnel.

Workshops on Vocational Components of IEPs.
When & Where: TBA
Target Audience: Parents from Vt. Association for Retarded Citizens.

### TECHNICAL ASSISTANCE

CETA Contractors

Vocational Rehabilitation Counselors

EDSP 218 Course Participants

Vermont Department of Education Needs Assessment Project (Vocational Educators)

Vermont Vocational Advisory Council Needs Assessment Project (Consumers, Special Educators)

The following list of skills, knowledge, and attitudes guided the development of content for the inservice workshops, courses, and technical assistance.

1. Knowledge related to characteristics of handicapped students and barriers to employment.
2. Skills and knowledge needed to participate as a member of an interdisciplinary team to develop, implement, and monitor IEPs which include annual goals on career education and vocational education.
3. Skills and knowledge related to the development and implementation of individualized vocational programs for handicapped students which include informational assessment and entry level procedures, specification of learning goals, development of teaching/learning strategies, and evaluation and revision of individualized vocational programs.
4. Positive attitudes towards handicapped persons obtaining and maintaining employment in the most normalized setting possible.
5. Knowledge of Individual Employment Plans for handicapped students.
6. Skills needed to participate on an interdisciplinary team to develop, implement, and monitor an Individual Employability Plan.
7. Skills, knowledge, and attitudes needed to utilize techniques for eliminating environmental and attitudinal barriers to employment.
8. Skills to develop job placements and analyze job skills required for employment.
9. Procedures to provide effective job coaching, monitoring, and feedback to handicapped youth and employees.

## STRATEGIES

### Pre-Grant Planning with Agency and Organization Administrators

Prior to the actual writing of the grant, all major agency and organization administrators were contacted personally, and comments were solicited relative to their perceived needs for inservice training. Administrators identified existing resources within their units that would be provided to augment the grant goals. Each agency or organization committed financial and human resources and was encouraged to view the project as an extension of its own inservice training activities.

Over a two-month period, a series of meetings was held with administrators from each of the participating agencies, and a final meeting was convened with administrators from all of the agencies. At this meeting, short and long term goals were discussed and representatives from each agency reported the resources that they would contribute to the project.

## Pre-Grant Planning with Consumer Groups

Consumers were actively involved in identifying their needs relative to vocational training and placement. The employment and education committees of the major consumer organizations adopted the consumer-related activities as objectives for their own scope of work.

Specifically, meetings were held with the Education and Employment Subcommittees of the Vermont Association for Retarded Citizens and the Vermont Coalition of the Handicapped. The members of each of the subcommittees were asked what information they needed on vocational training and employment in order to make them more effective advocates. The members of the subcommittees were also asked about preferred context for acquiring information, i.e., time, day or evening; length, two hours through six hours; participants, service providers and consumers or only consumers; written material, pamphlets, newsletters, articles.

Representatives from consumer groups were asked to serve on the project advisory council and assist in the planning of the workshops for consumers and service providers. Additionally, the Vermont Association for Retarded Citizens decided that its annual meeting would focus on issues related to vocational training and employment of handicapped individuals. The project staff was asked to assist in the planning of the annual meeting which was titled, "Employment: The Next Big Step." Subsequently, a monograph of the proceedings was prepared and edited by the project director with the assistance of the Executive Director of the Vermont Association for Retarded Citizens. Presently, the Association is soliciting support from a private sector employer to publish the monograph.

## Establishing Teams to Plan Each Training Activity

Each inservice training activity was developed by a team of interdisciplinary, direct-line service providers. Prior to selecting workshop content and presenters, service providers from regional offices wre convened to plan the overall format and activities. Project staff served as facilitators and recorders, clarifying and disseminating the outcomes of the planning sessions to the service providers. Each of the service providers who assisted in the planning also served as a small group facilitator during the workshops. This format allowed the consumers of the training to decide on the processes to be followed and the products to be developed.

Following each workshop, the same group of planners was convened to review the evaluation results in preparation for planning the next workshop. The initial planning meetings were held at regional locations but, because of the long distances involved, the majority of planning sessions were conducted by telephone conferencing. Most of the direct-line service providers had access to speaker phones in regional locations. Usually, four or more persons participated in three sites throughout Vermont.

## Incentives for Participants

Each agency provided released time for the participants and, in many instances, reimbursement for substitutes. Arrangements were made for participants to earn course and/or certification credit for selected components of the training activities.

The vocational rehabilitation counselors were required by the central administration to attend all of the scheduled inservice workshops. Since inservice training is a mandated activity to be provided through the State Vocational Rehabilitation Division, the workshops sponsored by the project fulfilled an identified need of the agency. In order to provide some incentives to the counselors, those who volunteered to serve as planners/facilitators were offered three hours of graduate credit for fulfilling these responsibilities.

The special education teachers were not required to attend the training activities. Since the special education system is decentralized and administered primarily through local education agencies the State Department of Education could only recommend that teachers receive released time to attend. The State Department of Education offered each school district resources to cover the cost of a substitute for one teacher in each local education program for secondary level handicapped students. Fortunately, the teachers apparently wanted to attend the workshops and were able to gain the support of their local administrators.

The employment and training personnel were also not required, but rather encouraged, to attend. Representatives from all of the major Comprehensive Employment and Training Office (CETO) contractors were present at the workshops.

## Evaluation of Each Training Activity

Many of the training activities involved a workshop series or semester course. Since each individual activity was evaluated immediately following its presentation, or at selected milestones, changes in the direction of the workshop series or course could be readily made. The planners/facilitators from each of the agencies served an important function: that of continuing to revise and direct the content and flow of the activities based on evaluative data which was reviewed following each workshop session. This information was used in planning subsequent workshop sessions in terms of both content and process.

## Local Sites for Workshops and Courses

All of the activities included in the project design were delivered at regional locations in agency offices or school buildings. In this manner, project staff were viewed not strictly as "university professors," but rather as professionals interested in and committed to learning about the day-to-day concerns of direct service providers.

During the workshops and courses, activities were introduced which required the development of products between scheduled sessions. Products such as Individual Employability Plans, Resource Guides, and Vocational Assessment Inventories were generated by participants. A project staff member was assigned to monitor specific activities and was available to travel to school districts or agencies throughout Vermont to assist in the development and implementation of the various activities. This staff member was also available for telephone conferencing, which proved to be the most frequently used mode of communication for this activity.

### Service on State Committees and Task Forces

During the planning stage of the project, an effort was made to identify existing task forces and committees that might ultimately have an impact on policy related to vocational training and employment of handicapped individuals. Project staff and advisory council members either volunteered or were appointed to each one of the major committees operating throughout the state. This has proven to be extremely helpful, not only in disseminating project activities but also in advocating development of statewide policies and services relative to vocational training and employment.

During the 1980-81 year, project staff members served on the following committees:

- Executive Board of the Vermont Vocational Association
- Executive Board of the Vermont Council for Exceptional Children
- Executive Board of the Vermont Association for Retarded Citizens
- Steering Committee for the Vermont Coalition of the Handicapped
- Vermont Vocational Advisory Council
- Division of the Vocational Education/Special Needs Task Force
- Secretary of the Agency of Human Services Council on Career Opportunities for the Severely Disabled

Activities of these committees included engaging in advocacy at the state and local level, providing guidance to state agencies relative to program planning, developing evaluative guidelines, and selecting projects to receive grant awards.

## PROBLEMS AND SOLUTIONS

### Lack of Employment Data on Handicapped Graduates

Since the ultimate goal of the project is to increase the number of handicapped individuals who are employed or are receiving further training after leaving high school, it is imperative to have information on the exact status of all graduating students (and other students who leave school) who have had IEPs. Currently, these data are not collected in a systematic manner. Hence, the project is conducting a pilot study, using seven randomly selected school districts to gather baseline data. Collection of these data will continue during years two and three of the project. Concurrently, project staff are working with the State Department of Education to develop and implement a system for collecting the needed student information.

## Lack of Time and Resources

The most frequent concern of service providers relates to the reported increase in paperwork and caseloads. Many service providers report that they have less time available to actually work with clients. Oftentimes, the services required for a client are not readily available and require intense negotiation with other education and human services agencies adding further to the time spent away from the client.

In order to facilitate case management among education and human services agencies, a format was developed for an Individual Employability Plan. This document is intended to streamline the process of coordinating services from several agencies, thus providing better service to clients and, at the same time, reducing the time devoted to negotiation among agencies. Two regional sites have been developed to pilot test the Individual Employability Plan concept during the second year of the project.

## Fragmentation of Vocational Training

In Vermont there appears to be a dearth of vocational training opportunities for handicapped individuals. There is currently no single agency which has the statutory authority to provide vocational training to handicapped individuals. Hence, services are fragmented across various human services and educational agencies and vary in quality and quantity in each region of the state. Although selected components of a vocational service delivery system do exist, there is no overall, systematic plan for development, implementation, or evaluation of such a system. Consumer groups are working with appropriate state agencies to determine the feasibility of introducing legislation which would fix responsibility for providing vocational training within a specified agency.

## EVALUATION

The overall purpose of the evaluation is to monitor the impact of the various project activities on the attitudes and behaviors of professionals across a number of human services and educational agencies and to examine changes in policies and practice at the state and local level. The following goals serve as the conceptual framework for developing both formative and summative evaluation activities and instruments:

1. To monitor implementation of project activities and objectives;
2. To determine the impact of project activities on the attitudes and behaviors of trainees;
3. To determine the impact of project activities on changes in state and local policies and practice related to vocational training and employment of handicapped youth;

4. To determine the employment and/or training status of handicapped youth who leave or graduate from high school; and

5. To determine the impact of project activities on the attitudes and behaviors of consumer and advocacy groups.

Various activities and instruments have been designed to address each of the evaluation goals. A brief description of those activities and instruments is provided below.

## Implementation of Project Activities

The majority of activities in 1980-81 involved inservice training activities. All courses and workshops were evaluated through written questionnaires completed by the participants and follow-up interviews conducted with persons having twenty or more hours of training. Informal interviews, attitude surveys, and content and competency tests were used to assess the impact of the training on knowledge acquisition and attitudes of trainees. Information collected from the various strategies will be used to direct the planning and implementation of project activities.

## Impact on the Attitudes and Behaviors of Trainees

A study was conducted at the local and regional levels to assess the perceptions and current practices of educational and human services professionals, related to vocational training and placement of handicapped youth. Many of these professionals participated in project activities. Three school districts were selected, and on-site interviews were conducted with special education teachers and administrators. The interviews were designed to provide information on the following set of questions:

1. What are the current attitudes and practices of local special education and vocational education staff in regard to providing vocational programming for handicapped students?

2. How many and what kind of interactions were there between special education and vocational education staff and vocational rehabilitation counselors?

3. How does the special education and vocational education staff feel about having an interagency agreement?

4. Have there been any local policy changes to aid in carrying out the interagency agreement?

5. How many referrals from special education staff to vocational rehabilitation counselors were there?

6. What are the perceived needs of the special education and vocational education staff in regard to vocational education programming?

7. Are local schools including more workshops on vocational education programs for handicapped students in their inservice plans?

8. How many handicapped youth have a vocational component in their IEP?

9. How many handicapped students are working in the community as part of their vocational program?

10. What percent of graduates of the current year will have a guaranteed job upon graduation?

11. What data are currently collected related to the status of handicapped youth following exit or graduation from high school?

Additionally, interviews at each of the four regional Vocational Rehabilitation offices were conducted with two counselors and the regional managers. The interviews were designed to provide information on the following set of questions:

1. What are the current attitudes of service providers in vocational rehabilitation in regard to working with handicapped youth and adults?

2. How many and what kind of interactions were there between special education staff and vocational rehabilitation counselors?

3. How do vocational rehabilitation staff members feel about having a cooperative interagency agreement?

4. Have there been any local policy changes to aid in carrying out the interagency agreement?

5. How many referrals from special education staff to vocational rehabilitation were there?

6. What are the perceived needs of vocational rehabilitation staff in regard to providing vocational rehabilitation services to handicapped youth?

## Impact on State and Local Policies and Practices

Interviews were conducted with state program administrators and consultants in special education, vocational education, and vocational rehabilitation. Additionally, archival and current client status information were analyzed to provide information on the following set of questions:

Division of Vocational Rehabilitation (state administrators and consultants):

1. What are current federal statutes concerning vocational rehabilitation, vocational education, special education, and mental health in regard to vocational training?

2. Does federal policy affect state policy implementation?

3. What are eligibility priorities for accepting people to receive vocational rehabilitation services?

4. How have the local and state staff been informed about the cooperative interagency agreement?

5. How does the staff feel about having an interagency agreement?

6. What policy changes have occurred through administrative practice, rules and regulations, or statutory authority to aid in increasing the training and employment opportunities for handicapped youth?

7. What inservice training activities and incentives are available for counselors to acquire the skills to successfully train and place handicapped youth in employment?

8. Does vocational rehabilitation follow up on closed cases?

Divisions of Special and Vocational Education (state administrators and consultants):

1. What are the current federal statutes concerning vocational rehabilitation, vocational education, special education, and mental health in regard to vocational programming for handicapped youth and adults?

2. Does federal policy affect state policy implementation?

3. How have the local and state staff been informed about the cooperative interagency agreement?

4. How does the staff feel about having an interagency agreement?

5. What are the needs of local staff in regard to providing vocational programming for handicapped students?

6. Are local schools providing more workshops on vocational education programming for handicapped students in their inservice plans?

7. What efforts have been made by the divisions to inform employers and citizens of the needs of handicapped youth and adults?

8. What follow-up data have been collected by each division?

9. What policy changes have occurred through administrative practice, rules and regulations, or statutory authority to aid in increasing training and employment opportunities for handicapped youth?

10. What inservice training activities and incentives are available for special educators and vocational educators to acquire the skills to provide vocationally relevant instruction to handicapped youth?

## Employment and Training Status of Handicapped Graduates

There is currently no systematic procedure for collecting and analyzing information on the employment and/or training status of handicapped students who graduate from high school or leave without graduating. One of the major goals of this project is to design such a system. During the first year of the project, seven school districts were randomly selected and asked to participate in the collection of data. All of the districts agreed and provided the names, phone numbers, addresses, and program placements of each student who had had an IEP and who had left or graduated from high school between the years of 1978 and 1980.

An attempt was made to contact each student by phone to determine her/his current employment status, vocational training opportunities, job experience, contact wth human service providers, and additional schooling or training since leaving high school. A copy of the interview form is provided in the Appendix. Students who could not be reached by phone were sent a letter asking them to call the special education coordinator in their local school district.

### Impact on Consumer and Advocacy Groups

In Vermont, advocacy groups play an important role in shaping and monitoring public policy and practice. Typically, advocacy groups are involved in dissemination of information through newsletters, local and state meetings, media presentations, and legislative hearings. Project staff have provided workshops and technical assistance to such groups in the form of information about best practices, model legislation, and current research.

Since the efforts of advocacy groups have in the past been a critical component in the dynamics of change, it is essential to collect information on the following question:

> What activities have advocacy groups engaged in to influence policy and practice related to employment and training opportunities for handicapped individuals?

Data sources will include newsletters, media reports, interviews with consumers and consumer advocates, agendas of state and local meetings, analyses of state and local statutes introduced during the 1980 legislative session, and analyses of litigation activities of the Vermont Legal Advocacy Project.

## RESOURCES

This project represents a joint effort on the part of an institution of higher education; state and local educational, human services, and employment and training agencies; consumers and advocates; and private sector employers. All of the agencies and organizations involved in the planning and implementation of training activities contributed various resources in the form of released staff time, incentives for participation, direct financial support, and professional and personal commitment of staff, as demonstrated through continuing involvement in the planning and implementation of project goals and activities. Specifically, the State Department of Education provided released time and stipends for teachers to attend the regional workshops. The State Department of Education also contributed a portion of the salary for the vocational special needs educator. It is anticipated that support for this position will continue beyond the duration of the grant.

The Division of Vocational Rehabilitation contributed resources in the form of staff released time totaling eight days over a seven-month period. The Division also provided tuition stipends for counselors interested in participating in graduate courses offered by project staff throughout the state.

The Vermont Comprehensive Employment and Training Office provided released time and reimbursement for mileage to counselors participating in workshop training sessions. CETO also contributed a full salary for an employment and training specialist to work as a project staff member. The employment and training specialist provided ongoing technical assistance to CETO contractors who requested this service. Additionally, Vermont CETO assisted the project in developing valuable linkages with the business community through the Private Industry Council/National Alliance of Business (PIC/NAB).

Finally, consumers and advocates provided the project with continuous feedback about the needs and desires of handicapped individuals relative to the world of work. Project staff were invited to participate in committees, conferences, and task forces dealing with employment and training.

Training at the awareness and skills levels has been provided to a large number of professionals across a variety of agencies and organizations. In addition, a smaller group of individuals within each agency and organization have served as facilitators. This core group, through participating in the planning, implementation, and evaluation of the training activities, will function during years two and three of the grant as trainers of trainers.

## Available Products

The following products, developed by the project, can be obtained at cost by contacting the authors (see address at end of chapter):

1. A model course syllabus including objectives, activities, outputs, and references for a course titled "Individualizing Vocational Instruction for Students with Special Needs." This course was designed for special and vocational educators.

2. A model course syllabus including objectives, activities, outputs, and references for a course titled "Comprehensive Career Planning for Secondary Level Handicapped Students." This course was designed for special and vocational educators, guidance personnel, vocational rehabilitation counselors, employment and training personnel, and consumers.

3. An instructional module on career development for handicapped students (K-12) to be used for a workshop with teachers or as a component of an undergraduate or graduate course. This 1½ hour module presents information on barriers handicapped persons face in entering the world of work.

4. A learner-centered, objectives-based curriculum on career education for handicapped students (K-12). The curriculum includes goals, objectives, sample pretests and posttests, and sample teaching-learning activities. This curriculum would be helpful to regular,

special, and vocational educators interested in including career education in Individualized Educational Programs.

5. A resource manual for developing Individual Employability Plans for handicapped students. This manual was designed by education, human services, and employment and training personnel to serve as a vehicle for action-oriented, client-centered case management across service systems.

6. Evaluation instruments to assess knowledge acquisition and attitudes of trainees relative to vocational education and employment of individuals with handicapping conditions.

## RECOMMENDATIONS AND FUTURE PROGRAMMING DIRECTIONS

Since the project has been operating for less than a year, it is difficult to address issues of replication and future development. It does appear, however, that the unique relationship built over ten years among the University of Vermont, state and local agencies, and consumer advocates had set the stage for a planning effort which was characterized to a large degree by mutual trust and support. Although the planning phase took over four months of careful negotiations, once it was completed there was a sense that the goals could and would be achieved.

Based on our experiences and evaluation data collected thus far, we plan on continuing the directions of the project as originally conceived. The major effort for years two and three will focus on developing and formalizing cooperative planning and programming initiatives at the local level. Project staff will assist local teams consisting of mental health and vocational rehabilitation professionals, educators, and employment and training specialists in developing action plans for providing comprehensive, cooperative, interagency services to handicapped youth. Inservice training in the form of courses, workshops, and technical assistance designed to enhance the technical skills of the service providers will continue throughout the state.

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# APPENDIX

## TELEPHONE SURVEY OF COMPLETERS/GRADUATES OF HIGH SCHOOL SPECIAL SERVICES PROGRAMS

1. PROGRAM
   1. ___RESOURCE ROOM
   2. ___SPECIAL CLASS
   3. ___CT/LS
   4. ___OTHER______________

2. SEX
   1. ___F
   2. ___M

3. YEAR LEFT SCHOOL
   1. ___1979
   2. ___1980

4. DO YOU HAVE A JOB NOW? (IF NO, SKIP TO #10)
   1. ___NO
   2. ___YES--HOW DID YOU GET THIS JOB?
      - 01 ___BY YOURSELF
      - 02 ___PARENTS OR RELATIVES
      - 03 ___TEACHER
      - 04 ___COUNSELOR
      - 05 ___FRIEND
      - 06 ___VERMONT JOB SERVICE
      - 0 ___OTHER

5. WHAT DO YOU DO ON YOUR JOB?______________________________

6. HOW MUCH DO YOU GET PAID? $__________
   - HOURLY
   - WEEKLY
   - MONTHLY
   - YEARLY

7. HOW LONG DID IT TAKE YOU TO FIND YOUR JOB? __________________

8. How long have you had this job? __________months

9. Are there any classes you took in high school that helped you find a job? ____ (Now skip to #11).

10. Since you don't have a job, what are you doing now?
    1. ___Traveling
    2. ___Volunteer work
    3. ___Staying home
    4. ___Going to school
    5. ___Looking for work
    6. ___Military
    ___Other________________________

11. Did you have a job while going to high school?
    1. ___No
    2. ___Yes--How did you get your job?
        01 ___By yourself
        02 ___Parents or relatives
        03 ___Teacher
        04 ___Counselor
        05 ___Friend
        06 ___Vermont Job Service
        ___Other_____________

12. Did you take any vocational classes at a vocational center? ___
    at your home school? ______
    1. ___No
    2. ___Yes--What did you take?
        01 ___Home Ec
        02 ___Trade and Industrial
        03 ___Agriculture
        04 ___Business Ed
        05 ___Health Occ
        06 ___Distributive Ed
        ___Other_________________

13. If you did not go to a vocational center, why not? _______________

14. Have you had a job or any other jobs besides present job since leaving high school?
    1. ___No--If no, skip to #16.
    2. ___Yes

15. WHEN DID YOU HAVE THAT (THOSE) JOB(S) AND WHAT KIND OF JOB WAS IT?

| DATES FROM | DATES TO | NAME OF BUSINESS | TYPE OF JOB |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

16. SINCE YOU LEFT HIGH SCHOOL, HAVE YOU GONE BACK TO SCHOOL FOR ANY CLASSES?
1. ___NO
2. ___YES--WHAT CLASSES?________________________
________________________

17. SINCE YOU LEFT HIGH SCHOOL, HAVE YOU HAD ANY JOB TRAINING?
1. ___NO
2. ___YES--WHERE WAS IT?
01 ___JOYEL
02 ___ADULT BASIC EDUCATION
03 ___
___OTHER________________

18. HAVE YOU TALKED WITH ANYONE FROM:

| YES | NO | |
|---|---|---|
| ___ | ___ | VOCATIONAL REHABILITATION (VOC REHAB) |
| ___ | ___ | SOCIAL REHABILITATION SERVICES (SRS) |
| ___ | ___ | LOCAL MENTAL HEALTH CENTER |
| ___ | ___ | COMPREHANSIVE EMPLIYMENT TRAINING OFFICE (CETO) |
| ___ | ___ | VERMONT JOB SERVICE |
| ___ | ___ | OTHER____________________ |

19. WHAT IS YOU FATHER AND/OR MOTHER'S OCCUPATION?________________

# TRAINING SCHOOL TEAMS FOR LEADERSHIP IN OPENING GATES

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## PROJECT OVERVIEW

Parallel to the rapid increase in the number of handicapped students enrolled in comprehensive high schools in New York City over the past five years, the authors have been engaged in several projects that seek to increase the involvement of special education students in career and vocational development activities (Flugman, Goldman, and Katz, 1979; Goldman and Flugman, 1976, 1977; Katz and Flugman, 1977a, 1977b; Katz, Flugman, and Goldman, 1979). One such endeavor is a current effort at providing inservice education of "gatekeepers" -- high school personnel such as school administrators, special education coordinators, vocational education supervisors, and counselors who, by the nature of their functions and leadership positions within a school, have the capability of opening gates to occupational training and career development for special needs students. Additionally, these gatekeepers are guided in spreading the outcomes of training to colleagues in their respective schools. This chapter describes the inservice training program, giving in some detail the stages of project development since its inception. At this writing, we are midway through the second year of training.

The project works with five high schools in one borough of the city each year. In each school, an interdisciplinary team of six is formed, which includes administrators, regular and special teachers, and counselors. All five teams attend biweekly workshops throughout the school year in which they interact with many invited speakers about attitudinal and informational aspects of disability, vocational education, and related topics. Each team member "adopts" ten faculty colleagues to be "multiplees" and to receive some of the factual and other learning that team members acquire in the workshop sessions. In addition, each team is visited in its school by a senior project staff member approximately once every other week.

In all these activities, the ultimate objective is for each team to assess its school's services and needs, to prepare a plan for better meeting the vocational and career needs of special education students, and to begin to implement that plan.

# PROCEDURES

The setting for training is composed of New York City's five boroughs, whose total population is approximately seven million people, with a public school enrollment of more than 900,000 students. On the high school level, there are over 290,000 students enrolled in 106 schools, of which 21 are classified as vocational/technical schools, 75 as academic/comprehensive high schools, and 10 as alternative schools. There are approximately 10,000 special education students at the high school level, the vast majority attending academic/comprehensive schools. Most academic/comprehensive high schools have some vocational training options. Offerings differ widely, but most of the schools have a business/typing program, an industrial arts exploratory program, and a cooperative education program. Twenty-nine high schools have an occupationally oriented home economics course. In addition, many of these schools have developed one or more strong occupational options in the mainstream, such as programs in horticulture and child care. The high school system is administered by a central office with regional offices led by a high school superintendent in each borough. At present, special education is in a period of transition, having a Division of Special Education at the central office, with six regional offices throughout the city assuming increased responsibilities for educational programs and support services. Coordination of these resources is supervised through six regional coordinators.

## Getting Started

In late spring, prior to the start-up for the project year, we met with central office administrators in special education to begin the process of selecting the participating schools for each of the three years. With their help, we selected the Bronx as the first borough to receive training. The Bronx, with approximately 55,000 students in 19 high schools, had developed, on a pilot basis, a special education regional office with some degree of autonomy regarding organizational structure, staffing, and curriculum development. The Bronx Special Education Regional Office seemed especially receptive to the inservice training program because our project objectives were so congruent with their own long-range goals regarding career and vocational development of special needs students.

For the first year of the project, we were confronted with the problem of selecting five schools from a pool of nineteen. We had to deal with a number of variables. Should the project include only the most needy schools, those having minimal career development programs for special education students? Or should we select schools that already had well developed special education programs, and that had a track record for innovation? Should we choose the highest risk or lowest risk schools? As our next step, we sought the advice of the Bronx regional special education administrator and the Bronx superintendent of high schools.

The issue was resolved by choosing a middle-of-the-road approach. After examining data concerning the composition of a school's special education population, its track record of providing services to special education students, and the leadership skills of the principal, we selected schools that had limited occupational programs for special education students but that also seemed to have the potential for organizing such programs as a result of participation in the project. The average enrollment in these five schools was 3,300 and the average staff numbered 162. The schools had an average of

125 special education students each, including educable mentally retarded, brain injured, emotionally handicapped, and a very few physically handicapped students.

The borough superintendent's enthusiasm for the project was clearly transmitted: He sent our five-page overview of the project to the principals of the selected schools and invited them to a meeting at his office where they could ask us about the project. He encouraged the principals to consider possible positive and negative consequences of their participation in the project, and in particular whether those who were already involved in trying out new programs might be overextending their resources.

The initial reactions of the principals were positive. However, several of them expressed concern about such problems as lowered staff morale because of recent increases in class size, shortages of vocational and industrial arts teachers, and the rapid increases in the number of special education students, in some cases 100 percent in a three year period, many of whom were being taught by provisionally credentialed or inexperienced teachers. After discussion all five principals agreed to participate in the project. The project staff helped to allay some of their uncertainties by describing the building-based aspect of the training program and by emphasizing that training would cater to the specific needs of individual schools, that the program would capitalize upon each school's strengths, and that the project staff would visit the schools often to help the team solve problems and plan activities and programs for each school.

The principals employed various approaches in recommending trainees; some invited individuals they themselves selected or people recommended by their administrative assistants while others posted information about the project and asked for volunteers. In every instance, the school's coordinator of special education was asked to participate. Among the 30 trainees in the first year of the project, 12 were administrators, 14 were teachers, 3 were counselors, and 1 was a paraprofessional working with special education students. In the second year of the project there was a significant increase in the number of administrators participating in the program. Two-thirds were assistants to principals, coordinators of special education programs, or general administrators; the others were teachers, counselors, and a paraprofessional.

Project staff then visited each of the five schools to meet with the nominated team members to explain the program in detail, and to answer questions. Special emphasis was given to the uniqueness of each school's contribution and the benefits to be gained by sharing information about their programs for special education students. In addition, we provided a rationale for the multiplier training process that required participants to spread the effects of training to colleagues in their schools. We clearly underscored the importance of the building-based biweekly meetings of project staff and teams. Almost all those nominated as team members agreed to serve after we met with them.

At that time and since we have tried to understand the diverse motives for participating in this project. Some may have felt that they could profit by learning new ways of teaching the growing number of special education students who were being mainstreamed into their classes. Others may have been looking ahead to the time when they would be administrators and would need a more thorough understanding of handicapped youth. Some, who were currently teaching in special education, may have felt a need to broaden the scope of their offerings. Finally, there was the "carrot" factor, a modest stipend, which we gave to all trainees. At this time we are uncertain as to how to judge the influence of these variables. Our current thinking leads us to believe that, for most people, choosing to participate was probably based on a combination of the factors mentioned.

## Workshop Activities

After selecting high school teams, the workshop portion of the project began. Workshops were held biweekly after school and rotated among the five participating high schools. All the workshops dealt with the overriding theme of the project--vocational and career programming for special education students. The specific contents were organized around three sub-themes: awareness of feelings about disability (one's own, parents', and students'), understanding of various disabilities and the implications for career and vocational programs, and the knowledge and ability needed to design and implement career and vocational programs for special education students.

Every workshop included both large and small group activities and at least one expert speaker on the specific topic. For example, the very first workshop was an effort to raise the consciousness of trainees about disability; a rehabilitation psychologist led the group through a series of self-exploration exercises which were processed in small groups, thereby allowing team members opportunity to communicate their feelings about disability. Because teams, for the most part, were unfamiliar with or had little understanding of disability, with two-thirds of the trainees having scant or no experience in special education, we felt that this affectively oriented activity would be an appropriate way to initiate the training program. We can report now that this particular workshop, which was very positively received by the first year group, evoked quite different reactions from the second year group. A number of Year Two workshoppers complained either that they had already been through similar sensitivity experiences or that the exercises dealt with physical disabilities whereas their school's special education students had mainly psychological disabilities. This experience will no doubt lead to a different approach to that session for Year Three of this project.

At the second workshop, where parents were the invited experts, teams learned first-hand about the trials and tribulations faced by parents in raising handicapped children. The school people were given an opportunity to exchange views and react to the vocational aspirations and expectations that parents had for their children. The parents conveyed the reality of their day-to-day living experiences and how they dealt with mundane matters such as their children traveling on public transportation to a part-time job, being able to give the correct amount of change in a job situation, or being able to follow directions. In preparation for this session, team members had been given a questionnaire that asked them to respond as if they themselves were parents of a disabled child, including such questions as "What impact does having a disabled child have on your family life?" "Now that your child is an adolescent what kinds of difficulties are you and the youngster experiencing?" "What kind of job do you think she/he will be able to obtain?" This warm-up activity was intended to establish the trainee's receptivity to the parent presentation.

Because some trainees had indicated that they had little or no experience in working with handicapped students, we planned a "getting to know you" workshop as the third session. We asked team members who were special education coordinators to invite a cross-section of special education students to participate as resource people. As a preliminary activity for the workshop, we asked trainees to briefly interview one special education student during the week prior to the meeting, using as a guide a "career aspiration" questionnaire that we had developed. The workshop was conducted mainly in small groups, with several special education students in each. Essentially, the small groups focused on students' career expectations and their perceptions of how their school program was preparing them for a job or further training after leaving school. For many trainees the workshop was the first time they had ever talked with a special education student about such matters; several expressed satisfaction with the opportunity and indicated surprise at being able to interact with these students comfortably.

The next few workshops dealt with the several types of disability; each was led by a person who knew both the disability area and occupational programs. These sessions were well received and in fact several team members spontaneously had expressed the need for more information of this kind.

One effect of trainees' lack of knowledge about disability was that the special education coordinator on each team was now seen as an expert. The coordinator began to be looked upon as the "answer" person to whom the others could go for straightforward and unambiguous information regarding the students in the school's special education unit. In particular, the coordinators made the special education students come to life for the other team members. Trainees began to talk about their students as individuals, as young people who happened to have a disability, rather than some amorphous group categorized as "special ed."

Just as the special education coordinator assumed a trainer role, other team members having expertise, most notably in the vocational and career areas, were able to do likewise. Specifically, they were able to expand upon and clarify general information about career and vocational education. However, after one and a half year's experience, it has become clear to the project staff that, while leadership on any one team may go to the senior staff person or rotate as a function of the topic discussed, movement of the team toward achieving program goals for special education students must be led by special education personnel.

Generally, the sequence of workshop activities begins with the initial set of affectively oriented workshops described previously. These are followed by a series that focus on different types of disability (learning, emotional, physical, and mental retardation) with implications and illustrations of career and vocational programming for students with special needs. The last component includes themes dealing with community agency and industry resources. Illustrative of this sequence is the following list of workshop themes for the second year of the project:

* Increasing Our Awareness of Handicap: Activities for Trainers

* The Parent's Point of View

* The Student's View

* Vocational Education for the Handicapped: A Marriage of Disciplines

* Career Education in a Comprehensive High School: An Exemplary Program

* Nurturing Vocational Success in the Learning Disabled High School Student

* Career Preparation for Emotionally Handicapped Students

* Work Experience Programs for Special Education Students

* Work Evaluation and Assessment Programs for Special Education Students

* Career Development of Mentally Retarded Students

* The Adkins Life Skills Program: Employability Skills Series

* Programs and Practices in Project Schools: Current and Planned

* Agency Sponsored Vocational Programs for In-School High School Students

* Postsecondary Training Opportunities at Community Colleges

* Agency Sponsored Occupational Training Programs for School-Leavers

* The Role of the Queens Special Education Regional Office in Implementing School Plans

* Job Placement and Job Development Activities for Special Education Students

* End of Year Conference: "Where were we, Where are we now, Where are we going?"

## Some Thoughts on Workshops

Although some workshop presentations were on programs in affluent suburban areas having abundant resources and in other ways unlike inner-city high schools, we felt that teams would be able to extrapolate ideas about curriculum development and programming that could be used as a basis for planning programs in their home schools. However, aware of the possible negative consequences of having such presentations made by people from the hinterland, and in preparation for these sessions, we outlined strategies presenters could use to help defuse negative reactions that might arise. There were indeed some such reactions, but the advance preparation of the presenters kept people's eyes on the transferable aspects of the programs being described and overall response to the sessions was generally positive.

Another thing we learned early on about planning workshops was the need to meet with presenters and provide them with an overview of the project, what had been covered previously, how the sessions went, and suggestions for content development. These preparatory sessions, we feel, were a significant factor in having a successful workshop.

Because of our background in group dynamics and staff development, the project staff were acutely aware of group process needs. Consequently, almost all workshops were structured to provide maximum interaction between and among teams. To reinforce the importance of "process," workshop agendas mailed to each participant prior to the session specified large group, small group, and evaluative activities. The concern given to process was rooted in the realities of a school day. Here we had thirty line personnel coming to a training session after an arduous day on the firing line. It would take every bit of ingenuity and planning to make the session alive and rewarding and, importantly, one that would lead toward accomplishing project objectives.

For each workshop we prepared a working agenda indicating a time allocation for each phase of the session, and the assignment of a specific staff member to direct the organization flow. Administratively, it might appear as though little was left to chance; some might even consider the pre-planning as being too highly structured. However, project staff were also well aware of the need for flexibility in capitalizing on the teachable moment; consequently when it was evident that a portion of a workshop was bogging down or that interest was flagging, a subtle glance among staff was sufficient stimulus to change direction. At times we huddled during a meeting to change process.

## Building-Based Consultation and School Plans

Soon after the workshops were under way, each school was assigned to one senior project staff member as the project liaison for that school, and the liaison initiated regular consultative visits to schools during the weeks that workshops were not held. Field visits, which were made throughout the school year, served as an occasion for team meetings, as ancillary training sessions, and as strategy and program development sessions. The major thrust of these meetings, constantly reinforced by the project liaison, was development of the plan for that school. There was a fair amount of variation among teams in their approaches and in the plans that finally emerged after much give-and-take during the course of the year.

To give a specific example of one of the more ambitious plans, School A had 34 emotionally handicapped students and an additional 30 classified as neurologically impaired/emotionally handicapped. At any one time 20 of these students were enrolled in a career education course designed exclusively for special education students, and a total of 20 were mainstreamed into 5 shops and typing and stenography classes. After careful review of resources and needs the team prepared a plan that included the following components: introduction of a new business typing course that would be open to both regular and special education students; initiation of an in-school and an out-of-school work experience program; enrichment of the career education course; and the formation of a business and industry advisory committee to enhance career and vocational programming opportunities for all students.

As the first year progressed, it became increasingly clear that the teams tended to develop program plans for their schools in a fragmented manner--one activity at a time, and only for the immediate future. In response to this awareness, we are now urging teams, almost from the beginning of their deliberations, to think in terms of comprehensive and long-term planning for their schools and to plan a sequential structure for the vocational and career opportunities to be developed for special education students.

In addition to a continual upgrading of program plans, an important outcome of the school-based consultation process was the positive feelings generated. By attending some meetings the principal conveyed to team members a sense of care and interest in what they were doing. Even in instances where the principal indicated that aspects of the plan were not administratively possible or required resources that were unavailable, the team knew that an effort would be made to overcome roadblocks in program implementation.

To make this report complete, it should be noted that the field consultation visits were not always very productive. A major problem was scheduling; it was usually difficult to find a time when all the members of the team could attend. Occasionally the liaison would arrive at the high school after an hour of travel to find that only one or two team members were available, and some of them were on call for emergencies. It seemed to be true that attendance problems were worse at the schools whose administrative style was crisis oriented. Attendance was best in schools where, from the principal down, there was an atmosphere of planning and of commitment to planned activities.

### Multiplier Process

After the workshops and field visits were under way, the multiplier training was started. Each team member was to enlist ten colleagues in a communication/action network, people who could make a contribution in achieving project goals. In deciding whom to select, team members used different criteria. Some chose colleagues in their own department, while others selected friends who they felt were interested in the needs of special education students. Some team members who were department chairpersons asked fellow administrators. In a few instances, multiplees were chosen because they had a record of resistance to having special education students in their vocational classes; choosing these people as multiplees was viewed as a way of eliminating roadblocks for a student's entry into an occupational area.

Project staff provided teams with reprints of short articles and other print materials for distribution to their multiplees. These materials usually focused on ways to enhance career and vocational activities in academic and non-academic areas. In addition, they served as motivators to stimulate people's thinking about approaches that would augment or implement the team's plan.

In addition, teams kept their multiplees informed of the team's growing information base and the team's plans. Multiplees received a description of the team's preliminary plan, including an outline of the school's special education program, the types of industrial arts and vocational training activities being offered within the special education program, and the number of students mainstreamed in regular occupational classes.

In order to make more of an impact on multiplees, we decided in the the second year of the project to place less emphasis on print materials and to encourage team members to make informal presentations at departmental and other meetings. This approach provides a vehicle for disseminating to a wider audience, while at the same time reinforcing learnings developed through other modes.

When one recognizes that the average number of staff in project schools is 162, then having 60 multiplees--a third of the total--participate in the process, requires more than a minimum of finesse and creativity on the part of team members. For some team members, just to enlist multiplees has been an onerous task. To date, we view the multiplees training element as uneven, with more pluses than minuses evident. There is much variation among multiplees in terms of their skill, effort and motivation to review, react, and make suggestions for programming. In recognizing these differences we are continually looking for ways to make the process more effective. For example, we now parcel out reading assignments and other tasks in dosages that can be accomplished with minimum burden. Overall the multiplier process might be best characterized as being in a state of "becoming." We expect that by the third year, it will be honed more sharply.

## EFFECTIVE STRATEGIES AND PROBLEMS IN IMPLEMENTATION

### The Overall Approach: Creating Organizational Change

The "bottom line," as we tell team members we are recruiting for this project, is producing changes at the school level in career and vocational services for special students. Training sessions, handouts, invited speakers, and lists of resource people are all directed at helping the teams decide what they want to accomplish in their schools and how they can go about it. Since these changes are planned and carried out by each local school team, we have viewed this project as a building-based training model that operates from the bottom up as opposed to a top-down approach in which new activities originate and are directed and supported from above.

In theory, fostering change through personnel at the building level is generally desirable from the standpoint of change and actual knowledge of the local situation. However, the use of a building-based approach imposes unaccustomed pressures on school personnel who, especially in large bureaucratic systems, usually await marching orders and the hoped for resources necessary to reach their newly mandated objective. The building-based model, in calling for the origination of local plans, requires a great deal of creativity and sheer effort by program trainees to re-distribute and then use what already exists in the school toward the end of achieving new outcomes.

Since changes in each school we work with are clearly what we have in mind, this is communicated in a non-threatening way to all those at various levels of administration who authorize our entry into the schools. Subsequent steps with both trainees and those who run the system are carefully taken, keeping in mind how easily the bearers of tidings about change can be sidetracked by a myriad of forces. Because we have appointed ourselves to help re-design how things are done, we emphasize the variety of experiences we have had, the various kinds of expertise represented by the project staff, and our past professional activities and previous projects in the schools. In short, in creating a positive or at least neutral climate for our actual entry into the school system and each individual school, we try to be explicit about our goals for change, to establish our expertise, and project our image as individuals who have generally left schools we have worked in functioning better, or at least with positive feelings about our intentions and efforts; in effect, we flaunt our track record.

Organizational change is inherent in the training structure of this program, a structure which requires six individuals who may have never interacted before to train and work together as a new unit in the school, for at least one year, toward the common goal of enhancing career and vocational programming for handicapped students. Change, organizational and otherwise, is also stimulated by a number of training strategies described below that are designed to set events in motion. However, the primary motor that will power change in each school in this project is "the plan." How that plan is derived, who works on it, and what is needed to establish it in practice are the three elements that weave together all the project staff's activities.

The school plan is derived by each team after the project staff engineers what might be termed a "consensus of discrepancy" among team members. Team members participating in this project come from diverse backgrounds and disciplines and have different roles in the schools. As a result, they begin with diverse views of what changes would be needed for enhancing vocational and career development of special education students. However, the structure of the project demands that they reach consensus on a single plan for their school. In the process, they are confronted directly with special education students themselves, their parents, and information about special students. In addition, their school's own vocational and career programs are examined and compared with ongoing model programs. When these experiences are analyzed, team members reduce the discrepancies among them as to desired solutions and finally arrive at some agreement as to what special education students need in the way of career and vocational experiences. In our setting the desired solutions have usually involved about 50 percent less work in academic areas and correspondingly more sequential career/vocational activities, culminating in actual work experience.

These needs are then compared with the school's existing programs and with exemplary programs in various settings to make explicit the gap between what is needed by students and what is actually in place. The examination of this gap and the model programs leads to each school's plan. Plans for new activities, programs, and staff efforts then become the focal point of many of the project staff's efforts as we try to foster their implementation. The plans also serve as ongoing stimulation to trainees regarding needed material and resources that we might have overlooked in our initial development of the training sequence. Finally, the plan, which the teams make public to the school at large, announces that a respected group of regular and special educators are grappling in a logical and sensitive way with what has become a highly visible problem in the last few years, namely, the rapidly increasing numbers of special education students at the secondary level for whom limited curricular options now exist.

With this overview as a backdrop and the "story of the plan" told once again, we now describe the specific strategies the project team has labeled as effective, impediments to the implementation of these strategies, and hindsight observations as to how practices and activities could be modified.

## Establishing Interdisciplinary Teams

Perhaps one of the most exemplary aspects of this project is the interdisciplinary teams, which include influential school personnel representing vocational and career education, school administration, and special education. The team structure provides opportunities for study, communication, and recommendations; and reflects different perspectives and experience regarding the needs of the special education students in relation to the resources of the school and community.

In training and ultimately working together, members of each team are able to review and challenge each other's beliefs as to what special education youngsters can and cannot do. As the teams develop a more accurate perception of these youngsters and form a consensus around the need to enhance career and vocational programming, they formulate plans which in part draw on each team member's ability to provide or support an activity in an area of the school under the control of that person. In some cases it involves initiating or facilitating a program or activity, in others removing a roadblock. Here, other things being equal, the most effective team members are those who hold administrative positions and therefore can authorize and act on changes.

A team that is functioning well often proposes or carries out changes on behalf of special education students that require cooperation between the regular school and special education. For example, in one school an unused business education facility was staffed by a special educator and opened to regular as well as special education students. As in this instance, the best deals struck by team members, although started from the needs of special education students, were lubricated by the potential gains to both parties rather than gains only for special education. Given the decreasing resources available to this urban setting, gains and costs are frequently a factor in decisions by educators. In this gain/cost environment, special educators, through the structure of the interdisciplinary team, have been able to collaborate with the regular school in a way that seems equitable to all parties.

The interdisciplinary teams serve yet another symbolic function. Composed of high status individuals, at least by virtue of their formal job titles, teams sanction to the school at large and to their respective departments the legitimacy of the evolving vocational/career services for special students. Observable support for these new initiatives comes through the publicizing of the team plan and through actions such as the employment of special education students in the offices of regular education assistant principals and department chairpersons.

Finally, the concept of a school based interdisciplinary team is consonant with the spirit of agreements reached by both federal and state education authorities to sponsor collaboration between vocational and special education. Team functioning in our project not only reinforces the utility of this concept, but it hints at the potential of this form of collaboration when, in addition to interdisciplinary collaboration at any single level, the different levels of each discipline--building, district, school system, and state--are in full communication and support of each other's efforts.

## Mainstreaming Special Educators

Project activities such as the team process, conferences with principals, and development and implementation of the plan serve to mainstream special education personnel into the total school power structure and press them into a more responsible and visible leadership role within the school.

Increased interaction of special and regular educators helps break a historic pattern of isolation and parallel program development in vocational education at a time when strategies using the resources of the entire school are needed to provide cost-effective career and vocational opportunities for special education students. In our particular program increased interaction with regular educators also gave special education personnel a chance to correct myths and misconceptions held about the students, the special education program, workloads of special education teachers, and other matters. In carefully explaining their students and program, special educators garnered increased respect from their peers in regular education, which resulted in a better working relationship with the school at large.

Involving special educators with other school personnel also helps to expose and reduce a leadership lag on the part of the special education staff who hold administrative positions. Apparently because of the rapid expansion of special education in this particular setting, there is a shortage of experienced special education personnel who can effectively administer growing departments. For example, during the first year we conducted the project, special educators on the team had an average of 8 years of experience in education as compared to 18 years for regular educators and an average of only 3 years in their current school as opposed to 9 years for non-special education personnel.

In the context of our project any leadership lag can be extremely detrimental because the special education coordinator is perhaps the single most critical team member. When this person cannot function as a "leader among leaders" on behalf of his or her department, the involvement of other team members in the project tends to decrease. However, the project design offers an opportunity for the more experienced regular education administrators to serve as role models or at least mentors in how things can get done in a particular school. In this way, the team interaction and a more widespread exposure to senior staff members throughout the school can provide opportunities for special education coordinators to develop needed skills which will enhance program development and management of activities for special education students.

## A Power Orientation

The intent of our project is to plant the seeds for change in each school we work with. As outsiders, however, we start in each location with virtually no control over practices and activities. Therefore, the program is structured so that those with power--team members, principals, and superintendents--are invited to use their influence on behalf of the vocational and career education initiatives established in each school for special education students.

For example, the project is designed to foster and then take advantage of the collective power team members have regarding program change and development in their school. Workshop sessions include speakers from both inside and outside the New York City school system who have control over programs and resources, and who invite team members to call or visit them for information or advice. Field visits by project staff usually involve our exhortations to move ahead, take action, and in general actually make the kind of changes that are required to implement the plan.

At times, however, the organizational climate of a school is such that programs originated by the teams are not encouraged by the power holders at the building level. In such a setting the existence of a school-based interdisciplinary team beyond the life of this project is by no means assured. To help temper such a negative school climate as well as reinforce or even authorize activities by school teams, we now seek more involvement with the school principal. While in retrospect this appears totally logical, it was not part of our original program design. What we now do is to schedule periodic meetings with each school principal which include the team members and a project staff member. Included on the agenda for these meetings are such items as the current vocational career programs for special students in the school, plans for new programs, and roadblocks that need to be removed. These meetings can be extremely important in problem solving in the school, in enhancing the visibility of the project, in lobbying for the continuation of the team, and in bolstering the morale of team members. In effect then, the school principal, to the greatest degree possible, becomes an ex-officio member of the team.

Finally, another similar, but less intensive, effort to reach individuals higher up in the school hierarchy comes in the form of a presentation to all the high school principals--usually 18 to 20--in the borough we are working in during any one project year. Given at a meeting chaired by the borough superintendent, this presentation is aimed at sparking interest in developing similar initiatives in those schools not participating in the project and in reinforcing the need to keep the project activites going in the participating schools. While the project operates on a day-to-day basis at the building and line level, supported by our project staff, it is our opinion that the ongoing operation of the team and its activities, and replication at additional schools, will ultimately depend on the support of the upper levels of administration.

## Advocacy and Other Non-Traditional Roles Played by Project Staff

Because certain organizational climates and bureaucratic roadblocks often stymie the changes that teams are trying to bring about, project staff at times go beyond their roles as trainers to act as advocates on behalf of plans proposed by teams. For example, we have met with both regular and special education supervisory personnel to discuss how they could support the teams' initiatives. Advocating for opportunities for teams to use what they have learned during their training may in fact be a necessary continuing activity in projects such as this one.

There is also some departure from the traditional trainer role during field visits with school teams; our behavior ranges from quite directive to quite non-directive in relation to activities the team engages in. If teams are operating independently and effectively we become less active, listen, and encourage a process we hope will continue without our presence. In many instances, however, we have become even more directive or hortatory than we originally anticipated regarding activities teams should be pursuing in order to carry out their plans. Naturally, this degree of directiveness in consultation is undertaken only after a relationship has been built between a staff member and the team. Although directiveness may not often be recommended for inservice training, it would appear that the day-to-day demands this large urban system makes on its personnel are such that this kind of consultation during inservice training is often welcomed.

In each of the five different schools in which we actively train in any one year, there is at least some resistance to the expansion of career and vocational services to special education students, in some schools much more than in others. Even special education personnel sometime feel uneasy about increased mainstreaming if they believe that their positions could be affected if more of their students are involved in career and vocational programs with non-special educators. In the biweekly workshops, when all school teams meet, the more resistant groups can slow the movement of others. Therefore, consultation with the more resistant schools centers for a longer time on establishing a consensus and a plan, and even on clarifying the attitudes of the school and team toward special students. It might be that even our range of consulting styles could not impact on the most resistant schools; perhaps they need a qualitatively different type of orientation and training than the overall program development and problem solving set adopted in this project.

## Field-Based Consultation

Field-based consultation by the university project staff serves a number of motivational as well as problem solving functions. From the motivational perspective an overdramatized analogue could be the visit of senior government officials to the scene of a major disaster to insure the public that they understand the extent of their suffering, have a direct conception of the reality of the scene, and that help is on the way. Our visits to the "scene" signal to the school at large that university people are taking this project seriously enough to come to them (a reversal of the usual procedure). These signals are sent up and down the line from principal to teacher, thus creating a general expectation that school personnel ought to reciprocate our efforts with action of their own.

From the standpoint of helping the teams develop and move plans along, field visits do indeed allow us to obtain a first hand glimpse of the organization. We have the opportunity to see the physical plant, students, and staff members in both special and regular education departments. Being accepted more by school staff and having a truly better understanding of their environment also allows us to be directive with teams, increases our certainty about what programs to advocate, and helps develop a collaborative bond that can be maintained after the project terminates.

## Fostering Comparisons

The project builds on the principle that "social comparison" is a means of stimulating and motivating people to work toward change. We seek to foster many kinds of comparison--between the views of members of a team, between the ideas of different teams, between the statement from one team that "we can't do that in New York City" and the responding statement from another team or from a workshop speaker who says, "But we did it."

The forced comparison process, augmented by the heterogeneous nature of trainees, is designed to increase internal tension and thus to encourage replacement of poorer practices with better ones. Obviously, this does not always occur. For example, exemplary programs presented by people from affluent suburban school systems are at times rejected out of hand rather than examined for aspects or components that could be adopted in our setting. Because out-of-system solutions frequently stimulate such knee-jerk rejections by our trainees, we have searched the New York City system for exemplary programs and practices, each of which could represent one unit or component of a total career/vocational package for special education students. Bringing in people who run exemplary programs within the city system, although somewhat parochial, appears to be more useful in the training process.

## Publicizing Activities

Rather than operating out of sight, teams are deliberately asked to publicize their involvement in this project, including their plans to enhance career and vocational activities for special education students. To put it bluntly, we are asking each of the team members, many of whom are administrators, to go on record as supporting the overall goals of the project, including a particular set of initiatives in their own school. Here we are operating on the assumption that a public declaration by teams to take action, in addition to setting the tone for the rest of the school, also increases the likelihood that these particular actions will be carried out by team members.

Public pronouncements regarding project activities come in the form of progress reports to the school principal, written outlines of plans sent to all multiplees, and presentations describing the project and its aims at departmental meetings. Teams are asked to go public in stages, in part dependent upon when they feel at ease with the direction they've chosen to take. For example, they usually have their first meeting with the principal during the third month of training, present their plans to multiplees in the fourth month and feel ready to talk or debate their proposed actions from the sixth month on. Most team members have taken on this "going public" responsibility, even though they know we have maneuvered them into a position in which, to a certain degree, their professional reputation and our own is at stake.

## Showcasing Successful Students

A special problem stems from the types of youngster for whom this project is an advocate. Many special education high school students in these urban settings are not "Easter Seal" children but rather young people whose disabilities are cognitive/intellectual and who are often disadvantaged or members of minority groups. In addition to cognitive deficits, some manifestations of their special education status include acting-out behavior. Real and imagined qualities of these students evoke a range of negative reactions on the part of regular educators that can slow or bring to a halt the introduction of new career and vocational activities in the mainstream or that impinge upon the mainstream in some way. The negative qualities attributed to these youngsters as a function of stereotyping are unfortunately reinforced by those volatile situations that do occur with special education students. To counter this resistance we have encouraged our teams, in a non-exploitative way, to showcase those instances (and there are many) where youngsters who performed poorly in academic tracks improved dramatically in vocational programs. In addition we have also been able to encourage regular education members of the team to break the ice in their respective departments by taking youngsters into their own offices as part of work experience programs or into their own occupational courses.

### What's Good for Special Education...

Special education students are now viewed as absorbing a disproportionate share of the diminishing resources available to the total school. It is at times difficult to convince regular educators to devote time, effort, and resources to special education students, given the many problems presented by regular students in urban settings. Specifically, the regular education team members and their multiplees sometimes see costs in terms of work and resources that are out of proportion to gains that will accrue to them personally and for their departments. While all schools view our efforts as needed in principle, there is a general sentiment in our urban system that too much money and effort is being diverted to special education in the face of the manifest needs of regular students.

To deal with these feelings and sentiments, both the trainers and trainees involved in this project have had to be explicit about how the project is attempting to wring out of the total resources available the most efficient, cost-effective, practical, and educationally sound approaches to career and vocational training for special education students. From program options formulated by teams, examples must be given as to how regular education students could be programmed into occupational programs for special students (reverse mainstreaming), how special education personnel could accompany special students into regular education occupational courses and serve regular education students in the process, how the interdisciplinary team could be used as a steering committee for the entire school's occupational programs, and how occupational programs planned for special education students could serve as models for other special populations in the school, such as the high school dropouts who now number 50 percent of the population at this level. Finally, it needs to be made clear that adequate vocational program development for special education students can decrease the stress placed on various segments of the regular school that deal with problems exacerbated by the inappropriate and inadequate programming for the students that is currently in place.

## EVALUATION

### Evaluation Strategy

In planning the evaluation of this project, we faced several questions. Should we have an outside evaluation consultant who would be "more objective" than a staff person assigned to conduct the evaluation? However, would an external evaluator "really understand" what the project was trying to accomplish and collect data on the important outcomes? Wouldn't a project staff person, serving as internal evaluator, be more helpful to personnel in their attempt to put the project into operation and to make modifications in their procedures as the project moved along? But would an evaluation conducted by an "insider" have any credibility? And would we be ruining the evaluation "design" if we modified our procedures sometime during the year? Should we, in fact, devote most of the evaluation effort to summative methods that would give evidence of the effects of the project, or to formative methods that would tell us how well the process was going and that would guide needed changes on a week-to-week basis? Finally, how much of our project's resources could we afford to devote to evaluation whether it be "internal" or "external," summative or formative?

Although the issues we faced are not unique and have often been discussed, we believe our solution was unusual in that it combined internal and external evaluations in a way that gave us the best of both. We had three different types of evaluators -- an internal evaluator (IE), an internal/external evaluator (IEE), and an external evaluator (EE). The IE was a research assistant who was an advanced doctoral student in measurement and evaluation; she had direct contact with the project on almost a daily basis and worked very closely with project personnel. The IEE was a professor in the area of measurement and evaluation in a different unit of the University; he supervised the evaluation activities of the IE and conceptualized and operationalized the evaluation variables, methods, and instruments. He was in touch with project personnel and the IE on the average of once a week. Toward the end of the first year of the project, the EE, actually a team of two professors from another university, and both with many years of experience in special education, guidance, and administration in urban schools, were asked to conduct a completely independent external evaluation; they were given access to all documents and all project and school personnel.

## Evaluation Process

The internal evaluation included both formative and summative components. The former consisted of a systematic compilation of evaluative comments made by team members during every workshop session and in a five-minute oral evaluation period at the end of each session. This material and a series of staff discussions about it provided continuous feedback for program improvement. The summative evaluation involved the administration of several questionnaires on a pre and post basis to team members and their multiplees. Each team member was asked to complete four pre/ post measures that were developed by the internal evaluator: Opinionnaire About Disabled People, Knowledge Survey, Individual Experience with Special Education Students, and the School's Experiences with Special Education Students: Team Report. Each multiplee was asked to complete one of two pre/post measures: Opinionnaire About Disabled People: Short Form or Individual Experiences with Special Education Students: Short Answer Form. A full report on the internal evaluation and a description of the instruments and their development is available from the authors.

The external evaluation team attended one of the workshop sessions, visited three of the participating high schools, and interviewed team members from all five schools, school principals, supervisors from the borough office of special education, and the project training staff. They then prepared a detailed report, also available on request.

## Major Findings of the Internal Evaluation

Comments From Workshop Participants. Every comment related to the workshop contents or process was recorded by the internal evaluator. These were systematically tabulated as to content area and as to their implications for change in the way the workshops are conducted. Trainers informally reviewed these comments and used them in constant modification and planning of later workshops. In addition, the comments were later analyzed systematically to study trends in workshop effectiveness as related to both the content and the process type of each session.

Opinionnaire About Disabled People. The Opinionnaire About Disabled People was a 65-item, 6-point Likert-type scale that yielded four scores: general attitudes toward the disabled, attitudes toward the disabled in vocational education, attitudes toward the disabled in work settings and a total score (Exhibit 1).

Exhibit 1

### Sample Items from the Opinionnaire About Disabled People

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On the following pages you will find statements about disabled people. There are many different options about this subject. People agree with some of these statements and disagree with others. We would like to know what you think about each one. There are no right or wrong anwers; we are only interested in your opinion. Please make a choice for every statement.

At the right of each statement are six choices as follows:

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Strongly agree | Agree | Not sure but tend to agree | Not sure but tend to disagree | Disagree | Strongly disagree |

Please put a circle around the choice that comes closest to how you feel about the statement at this time. It is very important that you answer every time.

1. Disabled people are as capable as anyone else. 1. 1 2 3 4 5 6

2. I think if I became disabled I could make a pretty good adjustment. 2. 1 2 3 4 5 6

3. It would be best for most disabled people to work in special settings. 3. 1 2 3 4 5 6

17. Physical accommodations (e.g., modifying shop equipment) should be made for disabled students in vocational education courses. 17. 1 2 3 4 5 6

18. When I meet a disabled person, I try to imagine what it is like to be disabled. 18. 1 2 3 4 5 6

33. Disabled people are usually untidy. 33. 1 2 3 4 5 6

34. It is almost impossible for a disabled person to lead a normal life. 34. 1 2 3 4 5 6

49. Disabled people usually want more sympathy than other people. 49. 1 2 3 4 5 6

50. I would not expect too much from a disabled person. 50. 1 2 3 4 5 6

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Even though the trainees started out the project year with relatively high scores on the Opinionnaire About Disabled People, the comparison of pre and post scores indicated statistically significant improvement in the attitudes and opinions measured by all three subscales and the total score.

An interesting additional finding on this questionnaire and most others was that team members from the three schools characterized by the project team as the most involved and most actively cooperating in the project showed greater gains than team members from the other two schools.

Knowledge Survey. The Knowledge Survey was an 8-item open-ended questionnaire designed to measure trainees' knowledge about special education students in general and in relation to career and vocational education (Exhibit 2). The items dealt with: special education and the law, career development and occupational education, community resources for the disabled, test modifications on behalf of disabled students, career counseling for the disabled, employers' misconceptions regarding the disabled, sensitivity training to better understand the needs of disabled students, curricular and instructional modifications on behalf of disabled students, and vocational counseling for the disabled.

Exhibit 2

Items on the Knowledge Survey

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The purpose of this survey is to sample your knowledge about special education as it relates to vocational education. Your responses to the survey's items will not be graded in the traditional sense. We shall use the results of this survey to help meet your needs during the course of the project year. Additionally, we hope to measure the workshops' effectiveness by administering a similar survey at the end of the project.

1. List the main features of PL 94-142, the Education For All Handicapped Children Act of 1975.
2. There are several community resources and agencies that deal with career development or occupational education for disabled individuals. List as many as you know.
3. What modifications would be necessary in using standardized tests with educable mentally retarded students?
4. What types of information would be most useful in assisting a student with a disability in deciding upon an occupation goal?
5. There are a number of misconceptions held by employers in regard to hiring disabled workers. List as many of these misconceptions as you know.
6. You would like to sensitize your colleagues to a better understanding of the needs of disabled students in your school. List as many specific activities as you can to accomplish this aim.
7. Students classified as learning disabled are often identified as having certain characteristics that necessitate curricular and instructional adaptations. Name as many of these adaptations as you can.
8. Counseling emotionally handicapped students for occupational careers requires greater focus on aspects not usually emphasized with others not having this disability. How would you prepare an emotionally handicapped student who is about to go on a job interview?

The Knowledge Survey showed statistically significant gains from pretest to posttest, though not as marked as on the Opinionnaire. This may indicate that the project was more effective in changing attitudes than increasing knowledge and may in particular point up the impact made by the early workshop meetings, where disabled students and their parents met with the trainees. However, the difference may in part stem from technical differences between the two instruments. The Opinionnaire was a rating scale, whereas the Knowledge Survey was open-ended and required write-in answers--a more demanding task whose pretest and posttest responses are more difficult to compare with one another.

Individual Experiences with Special Education Students. The Individual Experiences with Special Education Students was a 5-item open-ended questionnaire inquiring about each individual's experiences with special education students in school (Exhibit 3). These items, designed to measure trainee self-reported behavior, dealt with: quantity and quality of interactions with disabled students, modifications made on behalf of special education students, discussions with colleagues concerning special education students, and what trainees would like to do for special education students with respect to career and vocational matters. An additional item on the posttest that was not included on the pretest asked trainees to describe personal changes resulting from participation in the project. All but two trainees reported some change. Special educators tended to report personal changes in how they viewed the vocational needs of disabled students and increased sensitivity toward non-special educators' feelings about disabled students. Other educators tended to express more generalized personal changes in how they viewed disabled students. Here again the three more involved high schools showed significantly more growth than the other two schools.

Exhibit 3

Items from Individual Experiences with Special Education Students

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The purpose of this survey is to learn about your individual experiences with the special education students in your school. There are no right or wrong responses. Please answer on the basis of your personal experience.

Answer Question 1 if you are not a special educator

1. a) During the course of a typical week how many special education students do you come in contact with for a specific purpose? Describe the number and nature of these contacts.

   b) Were any of these contacts related to vocational or career matters? Please elaborate.

2. a) What modifications (e.g., curricular, instructional, equipment, counseling), if any, have you made on behalf of special education students?

   b) Were any of those modifications related to vocational or career matters? Please elaborate.

3. a) During a typical semester, which outside organizations, agencies and employers have you contacted on behalf of special education students? Estimate how many times you contacted each one.

   b) Please elaborate on those contacts related to vocational or career matters.

4. a) In the past semester, have you discussed wth colleagues--formally or informally--ideas, issues, problems, and/or concerns related to special education students? What were the themes of these discussions?

   b) What precipitated the discussions?

5. What would you like to do for special education students with respect to vocational or career matters that you are not doing now?

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The School's Experience With Special Education Students: Team Report. The Team report was an 8-item open-ended questionnaire, completed by each school team, that summarized each school's involvement with special education students with respect to vocational and career matters (Exhibit 4). The pretest of this questionnaire was developed to serve as an inventory of the school's programs and activities in the vocational and career areas as they served special education students. The comparison of pretest and posttest responses was intended to reflect changes in the programs and activities that might be attributable, at least in part, to this project. Unfortunately, in the first year of the project the trainees were somewhat less thorough in completing the posttest than the pretest, due to end of year pressures, so that conclusions about changes were limited. However, at this writing, the second year team reports are being received. Based on the experiences of the first year we administered the posttest earlier, and admonished the teams to be complete and conscientious (but not to report change just to make the project or themselves look good). The data coming in does reflect movement at the school level. A sample of the changes reported include: a general increase in awareness on the part of team members and multiplees of the need for more career and vocational programs for special students; the development of and plans for selected activities in the school, such as a six-course sequence in careers and occupations; a job development and job placement initiative; a business education course; a college articulation program; a general increase in the mainstreaming of students in vocational courses; and greater articulation with community agencies.

Exhibit 4

Items from The School's Experiences with Special Education Students:
Team Report

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The purpose of this survey is to learn what is happening with special education students in your school with respect to vocational and career matters.

Workshop participants from each school should work as a team in preparing this survey. Please respond in the spaces provided and elaborate on your answers whenever possible.

1. a) List and briefly describe all vocational and career programs within the special education unit that are exclusively for special education students this semester. Include current enrollment figures.

   b) List any regular vocational and career classes/programs in which special education students are mainstreamed this semester. How many special education students are in these programs?

   c) What criteria are used for mainstreaming special education students in regular vocational education programs?

2. What do staff members do to interest special education students in vocational programs?

3. a) To what extent are special education students mainstreamed into vocational and career counseling activities in the school?

   b) What criteria are used for including special education students in vocational and career counseling activities?

4. What information related to vocational and career matters is generally contained in Individual Education Programs (IEPs)?

5. a) What modifcations (e.g., curriculum, instructional, structural, counseling) have been made by the school as a whole and/or at department levels on behalf of special education students?

   b) Are any of these modifications related to vocational or career matters?

6. What materials in the following areas are available to staff: professional information about disabilities, curricular and instructional modifications, and employment opportunities for the disabled? Where in the school can these materials be found?

7. What working relationships on behalf of special education students has the school developed with outside organizations such as agencies and employers?

8. What are the main things you would like to see your school do for special education students with respect to vocational and career matters?

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Short forms of the attitude and knowledge instruments were given to the multiplees before and after training. Less change in attitudes, knowledge, and behavior was found for multiplees than for the team members. This was expected since multiplees did not attend workshops or team meetings with the project staff liaison person; their only contact was through written materials and occasional personal contacts with "their" team member. With this limited involvement, it is gratifying that the questionnaire showed even a small amount of gain in the variables measured.

## External Evaluation

The report of the two external evaluators was itself 23 single spaced pages in length, so a brief summary here can only skim the surface. This part of the evaluation included interviews with all five high school teams--three of them at the high schools--and with supervisors from the borough regional office of special education, and attendance at one complete workshop session.

The report is quite candid and filled with many insights, interpretations, and suggestions for increasing the effectiveness of various components of the project. The overall project was viewed as very effective in achieving its primary goal of inservice education of the team. There were many highly favorable references to the workshop sessions, the field consultation visits, and the contributions of the project staff. The report also went into considerable detail in comparing the outcomes in the five schools and related these outcome differences to administrative support in the school, leadership role of special educators, selection of team members, and other factors.

The report also confirmed the difficulties the project staff had become aware of in the multiplier process and included specific suggestions for improving that process, many of which have been implemented in the second year of the project.

There were many suggestions for enriching the workshop sessions--both as to presenters and process. A number of these suggestions were found by the project staff to be feasible and were in fact introduced during the second year.

Finally, the evaluators gave special attention to the problem of following-up these first-year schools in the succeeding two years of the project. Their encouragement and suggestions have been very helpful to the project staff.

All in all, then, the external evaluation nicely complemented the internal evaluation by giving a view through two pairs of expert eyes. These evaluators brought to bear all their skill and knowledge of high schools, vocational education, guidance and counseling in a wide-ranging, probing look at all components of the project, all participants, and others who had knowledge of the project. They confirmed the positive outcomes evidenced in the various measures included in the internal evaluation, and they offered many insights that helped us understand what happened and how to enhance the project in the second and third years.

## RESOURCES

People and several kinds of written material were the major resources used in this project. Most of the resources had essentially the same basic purpose--to sensitize the teams and multiplees and to inform them about aspects of vocational development for handicapped students. An additional few resources were evaluation instruments developed specially for this project.

### People as Resources

Many kinds of people were brought to the workshop sessions as, in effect, teachers. Some of these teachers were specialists in disability or in vocational education, some were directors of exemplary programs, and some were representatives of agencies and colleges that have special services to offer handicapped students. Perhaps the greatest impact came from the amateur educators--the handicapped students and their parents.

The following list of workshop topics includes specific examples of the many kinds of people who have been the presenters and resources at those biweekly sessions:

Raising awareness

* Rehabilitation psychologist specializing in group work

* Ten parents of special education students

* Ten special education students from project high schools

Exemplary vocational programs in special education

* Assistant superintendent in charge of special education in a suburban shared services program

* Principal of a career development center in a suburban county

* Team from a city high school with an exemplary program for 300 special education students: career education advisor, resource specialist, and special education classroom teacher

Disability and the implications for career programming

* Professor of special education, formerly a principal of schools for socially maladjusted students

* Professor of special education, formerly a supervisor of classes for neurologically impaired

* Administrative head of an adult skills training center for older retarded adolescents and of cluster programs including emotionally handicapped students

* Supervisor of curriculum development from a regional office of special education

* Principal, vocational teachers, and job developer in an occupational training center for retarded students

Career education: Conceptual framework and practical applications

* Career education specialist from a special education training and resource center

* Project staff members

Work experience programs

* Supervisor, coordinator, and field-based teacher of a regional work-experience program

Postsecondary training opportunities at two-year colleges

- College coordinators of special services for handicapped students from five local community colleges

Agency sponsored occupational training programs for school-leavers

- Director of counseling, office of vocational rehabilitation
- Training supervisors from several rehabilitation facilities

Work evaluation and assessment programs for special education students

- Director of vocational services of a major rehabilitation center
- Supervisor and teacher in an occupational training center for retarded and neurologically impaired students

Employabilty skills

- Director of training at an Institute for Life Coping Skills (the Adkins Program)
- Teachers who use life skills program with special education students

Job placement and job development

- Coordinator of job placement for special education students
- Job developers from several rehabilitation agencies
- Personnel and employment managers from business and industry

Implementing school plans to enhance career opportunities

- Special education supervisors of project high schools

## Print Materials

Many article reprints and other print materials were distributed during workshops to the team members, both for their own reading and for dissemination to their multiplees. These handouts were usually short and were drawn from a variety of sources: newspapers, magazines, professional journals, and others. Samples will be furnished on request.

In addition, each school received the following set of books as the beginning of a professional library on the subject of career and vocational education for handicapped students:

1. Bro'in, D. E. and Kokaska, Charles J. Career Education for Handicapped Children and Youth. Columbus, Ohio: Charles Merrill, 1979.

2. Guidance, Counseling, and Support Services for High School Students with Physical Disabilities. Cambridge, Mass.: Technical Education Research Centers, Inc., 1977.

3. Monthly issues of the journal Exceptional Children, published by the Council for Exceptional Children.

4. Selected articles and issues of the journal Career Development for Exceptional Individuals, published by the Division on Career Development of the Council for Exceptional Children.

5. Monthly issues of the journal Education Unlimited, a publication of the Educational Resource Center (1834 Meetinghouse Rd., Boothwyn, Pa. 19061).

6. Stieglitz, M. and Cohen, J. Career Education for Physically Disabled Students: A Bibliography. Albertson, N.Y.: Human Resources Center, 1980.

7. Brolin, D. E. Life Centered Career Education: A Competency Based Approach. Reston, Va.: Council for Exceptional Children, 1978.

### Process Materials

Each biweekly workshop was carefully planned from both a content and process standpoint. Detailed workshop agendas, homework assignments that prepped teams for workshops, and an explanation of the multiplier training process are available on request.

### Evaluation Instruments

Six evaluation instruments were developed specifically for this project. Full information and sample items appear in the evaluation section of this chapter. A detailed description of the procedures used in their development along with their technical characterisitcs can be obtained from the authors.

## RECOMMENDATIONS

Our experience in this project leads us to offer several suggestions to those who would like to undertake similar projects.

### Policy Issues

Increasingly during the course of the project we have stressed the goal of actual changes in school practices; in this perspective attitudinal and informational changes are merely means to an end. However, that end can be attained only if trainers and trainees will grapple with environmental factors in the school over which they usually have no control. Perhaps the most important step in this direction is gaining administrative support for the program. One thing we have learned is that it is vital to bring the principal into active and frequent contact with the teams. Something we have not tried but believe would be valuable is to seek a commitment in advance, that the principal will continue the team after the project ends and will personally monitor and support its activities.

The matter of incentives for participation as a team member or a multiplee also requires careful consideration. Heavily burdened high school staff members cannot, except in rare cases, be expected to give the time and energy required by this project without some recognition, whether in the form of college course credit, inservice credit, stipends for after-school work, or released time.

## Program Procedures

The key program procedures that seem essential to this project are the interdisciplinary teams, the biweekly workshop sessions and the field consultation visits. The interdisciplinary team should if at all possible include respected special, vocational, and academic educators and guidance and general administrative personnel. Included among these people should be administrators who are experienced in program development and who have the power to effect change in the school. The interdisciplinary quality of the team provides a valuable opportunity for mutual enrichment and combining of the special knowledge, strength, and perspectives of the component specialties.

The workshops contribute in many ways to the total project; perhaps one of the most valuable is the diversity of information about disability, career and vocational programs, and other topics. Every team member learns something new, and by the end of the year there is a common pool of knowledge that helps the team members function together effectively and comfortably. A second valuable component of the workshops is increased sensitivity to the needs and perceptions of handicapped students; even experienced special educators broaden their awareness by seeing the special students and their parents serving as resource people during workshop sessions. Third are the presentations to team members by successful practitioners who thus serve as role models of people who get things done under difficult conditions and who will be available as resource people even after the workshop series ends.

The multiplier training program component could be an option in program replication. This procedure, where team members select individuals to participate in second order training, must take into consideration time limitations of both team members and multiplees and the lack of incentives for multiplees to participate in any demanding activities. Realistically one can expect that the multiplier process will spread throughout the school a modest amount of information and awareness regarding the needs of handicapped students. Modest though the changes are, they can contribute toward the development of a more favorable climate in the school for the team's proposals and plans.

## Variations

Some schools should be able to conduct a project similar to this one without the intervention of university or other external staffs. By using the content, process, and evaluation materials we have developed for this project, a school principal could form a team and then turn training and program development largely over to this group. For example, team members could arrange for mini-workshops, conduct a school-wide needs assessment, develop plans for new vocational and career programs, and engage in multiplier training activities so that the entire school could learn of their activities and the support they need. Using the self-training mode, however, would require active monitoring, support, and encouragement by the school principal. Naturally, whether teams were trained from within or from without, optimal productivity requires either released time or incentives for after-school sessions to carry out team functions. Those teams engaged in self-training would also find it helpful to be part of a network of other schools who were using a comparable training mode.

Another variation that could be considered in replicating this project involves the inclusion on the team of a local representative of the state's rehabilitation services department. As the recipient of the products of the school system, many rehabilitation services staff members maintain strong views as to how the schools should be preparing youngsters for the world of work. An interesting way of conducting this variation would be to include provisions for a channel of communication into their respective hierarchies for each constituency on the team--special and vocational education and rehabilitation services. This form of communication would provide administrative personnel at school district, city, regional, and state levels with information from the line, from the perspective of each collaborating group on the team. Involving personnel at higher levels within each discipline could encourage greater collaboration among the three groups at these levels as well as increase the amount of support the school-based teams might receive to implement their local plans.

Finally, the team concept seems suited for use in enhancing career and vocational programming for all students in the school, including other special needs groups such as women, minority groups, and others. Following this reasoning, the all school career/vocational team should include representatives from all special needs groups. The team could conduct its educative function while at the same time planning, coordinating and implementing activities that would make the most efficient use of the school's occupational offerings for all students.

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# TRAINING TEACHERS AS INSERVICE EDUCATION PROVIDERS

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## PROJECT OVERVIEW

Training Educators to Design, Develop, and Deliver Inservice Education (TEDDDIE) is located at the University of Kansas within the Department of Special Education. It is a university-based inservice project serving vocational and special education agencies in Kansas. The project was funded in June of 1979. We are currently completing the second year of a three-year funding cycle.

### Context

The University of Kansas is located in northeastern Kansas. Over the past 15 to 20 years, most attempts to implement special education field-based training projects have been concentrated in this area of the state. Because state needs assessment data consistently showed training needs in central and western Kansas, we proposed to concentrate our training efforts in these areas.

For administrative purposes, Kansas is divided into a number of educational cooperatives for both special and vocational education. The administrative boundaries are not consistent, i.e., there is no relationship between the two systems. A local education agency (LEA) might contract for special education services from an agency serving a particular geographic area and for vocational education services from another agency that serves an overlapping, but different, region. For this reason, it is difficult to coordinate special and vocational services for any one LEA.

The resultant effect is that special and vocational education exist as two separate entities--on a state level as well as in large geographical areas of the state and even in local communities. Coordination of programming between and among agencies is severely limited by the nature of program administration. As we attempted to create cooperative staff development programs, each set of vocational and special education providers had to be approached differently depending on their own administrative structure as well as the geographic areas they served.

The following list describes the types of arrangements that characterize our training sites:

1. A large urban school district with its own special and vocational education programs, including an area vocational technical school (AVTS) that serves both secondary and postsecondary students

2. Two rural special education cooperatives and the area vocational technical schools serving approximately the same regions (these AVTSs serve both secondary and postsecondary students)

Traditionally, special and vocational education have not participated in a great deal of cooperative programming. This has been true on the national and state levels, in teacher training programs, and in the classroom. Individuals who have attempted to work across the two fields have identified the facilitation of cooperation as an essential first step, if not a goal.

We identified project objectives by first developing a set of assumptions regarding the nature of our training audience and context. Based on these assumptions, we used the available literature on inservice education and adult learning to identify a set of procedural guidelines for effective inservice education. These guidelines served as criteria for generating project objectives and subsequent project design and implementation. This developmental process as well as the resultant assumptions, guidelines, model, and implementation procedures are described in the following sections. The objectives of the project are:

1. To prepare teams of vocational and special educators, through curriculum development training, to design, develop and deliver needs-based inservice education to their peers;

2. To enable, through interagency cooperation, teams of vocational and special education teachers to train their peers from other districts to design, develop, and deliver district-specific staff development programs through the replication of the curriculum development training process; and

3. To provide peer-directed, district-specific staff development programs for vocational and special education teachers that will enable them to meet the career/vocational needs of handicapped students.

## Assumptions

We began conceptualizing our training project by identifying several assumptions about our target populations and the settings in which we would operate. These assumptions were to serve as "realities" against which we would evaluate all potential implementation strategies that we might generate or uncover. Our assumptions were as follows:

1. We would face resistance to the idea of teaching handicapped students in regular vocational education settings.

2. Because of past inadequacies, any inservice program would not be well received (regardless of the topic) and whatever training we provided had to be the best participants had received.

3. This combined resistance would reduce the impact of any training we might deliver.

4. All the teacher competencies needed to integrate handicapped students into vocational settings could not be addressed within the time frame of the project.

5. Teachers who were trained as inservice providers and teachers who attended inservice sessions should be provided incentives (course credit, money, released time, etc.) to participate.

6. Administrative and professional organization support would be essential to the implementation and ongoing maintenance of the project.

7. There currently existed vocational and special education teachers with the potential for cooperatively integrating handicapped students into regular vocational education programs.

8. Sufficient training materials existed to meet the training needs of special and vocational teachers in regard to the integration of handicapped students.

These assumptions were based on our collective experiences in special, vocational, and inservice education as well as reviews of the literature and extended discussions with individuals who had attempted to conduct similar training. We were convinced that any attempt to reach our target populations had to be based on practical solutions to the problems posed by the first four assumptions. We were counting on the last two assumptions--good teachers and available training materials--to work to our advantage.

## Guidelines

From these assumptions we developed a set of operational guidelines to serve as a foundation for project design. At the time, no widely accepted guidelines were available for potential inservice providers; therefore, we based our guidelines on criteria the Office of Special Education felt were essential for projects addressing the integration of handicapped learners into regular education settings (Siantz & Moore, 1978) as well as on the research literature on inservice education and adult learning. To address our first three assumptions, we believed that inservice programs had to be delivered by someone other than project staff--preferably peers of our trainees. We believed also that the inservice programs had to be immediately successful in meeting teachers "felt" needs and had to include the right mixture of background and practical information. Our fourth assumption led us to conclude that in addition to content training (e.g., why should we and how do we integrate handicapped students into vocational education programs), we had to train and motivate personnel who could and would continue the training effort beyond the project funding period. We felt that rather than merely providing inservice education, we had to institutionalize a staff development system. The system had to be ongoing and self-sustaining.

We viewed our last two assumptions as assets upon which to capitalize. We were familiar with several sets of materials as well as entire programs that could serve as a basis for training content. We believed also that there were teachers in the schools who had the knowledge, skill, and commitment to integrate handicapped students and that these individuals could serve as trainers and models for their peers.

The guidelines we used to develop the project are summarized below. More complete descriptions of the guidelines and our sources are provided in Skrtic, Knowlton, and Clark (1979) and Skrtic, Clark, and Knowlton (1980).

1. Inservice education related to the education of handicapped students should be based on an assessment of the strengths and needs of regular and special education personnel.
2. Regular and special education personnel should assume roles as planners and teachers of inservice programs.
3. Inservice education programs should provide participants many different ways to accomplish their individual goals.
4. Evaluation, an integral part of any educational endeavor, should examine the impact of inservice education on participants' behavior and, ultimately, on student performance.
5. Local education agencies (LEAs) must make a commitment to the concept of continuing professional development through implementation of an ongoing, coordinated inservice program.
6. Inservice education should be a collaborative effort that recognizes and uses the strengths of LEAs, state education agencies (SEAs), institutions of higher education (IHEs), and professional organizations (POs).

Given the context of our training mission and our assumptions about the nature of the target audiences, adherence to these guidelines was essential if our efforts were to have an impact on inservice practices.

## Project Model

Based on our assumptions and guidelines, we faced the task of developing a model for inservice education that would incorporate the features we had identified as necessary for success in our particular context. The research literature on inservice education consistently led to the same conclusions: the most effective programs are teacher-developed and delivered; they are perceived as an ongoing part of the educational system; and they are based on the expressed needs of the inservice participants. Frequently, programs designed and delivered by "outsiders" have very little impact and are simply "one-shot" sessions, rather than part of an ongoing professional development program. The foundation of our model, therefore, was peer-training. Although several peer-training models were available, they were rejected because they did not involve the peer trainers in the development of the inservice programs. These models, commonly referred to as trainer-of-trainers models, are based on developing training content and then training select personnel to deliver that content. We felt that this approach violated our third guideline and one of our basic assumptions. That is, we believed that representatives of our target audiences had to play major roles in the design and development of the content as well as in its delivery. In addition, if trainers could deliver only a prescribed body of content (no matter how well they could deliver it), their impact on the system would end after they had delivered it. Therefore, we felt at least two levels of training were necessary. The first was the training of select personnel to serve as inservice developers and deliverers. The second level of training was the actual delivery of inservice programs to target audiences. Our desire to create an ongoing, self-sustaining system could be accomplished to a certain degree if local personnel were trained to develop and deliver inservice programs. However, that ongoing system could be further guaranteed if local personnel also were prepared to train others to be inservice providers. To accomplish this, a third level of training was added to the model, i.e., training local personnel to train other personnel to be inservice providers.

Since the development of an inservice education program is essentially a curriculum development task, we knew that the basis of our training had to address curriculum development skills. Our review of the literature on curriculum development and curriculum development projects uncovered several positive by-products of group involvement in such activities. Two directors of large-scale curriculum development projects (Meyen, 1969; Tyler, 1971) in particular, provided what we considered to be the essential missing link. They reported that the most powerful impact of their curriculum development projects was not the curricula that resulted but rather the professional and personal growth that occurred in their participants. Involvement in the curriculum development process, itself, had served as an intervention. It had significantly changed the group as well as the members within the group. In effect, the experience had drawn the group closer together and facilitated strong personal and professional ties among them. This idea is consistent with the adult learning literature. Involving individuals in a process that requires a collaborative effort toward a common goal tends to crystalize the group, foster cooperation, and contribute to personal development. Based on this idea, the involvement of participants in the curriculum development process was projected to have several distinct advantages.

1. Through this process, the inservice curricula to train target audiences could be developed.

2. Use of curriculum development procedures would ensure that the inservice curriculum would be needs-based.

3. Training local personnel as inservice curriculum developers would provide the LEA with skilled personnel who could provide for future training needs.

4. Training select personnel to train other local personnel to be curriculum developers would further ensure the ongoing, self-sustaining qualities of the staff development system.

5. Curriculum development skills are directly generalizable to classroom instruction and are essential to educational programming for integrated handicapped students.

6. Involving special and vocational educators as teammates in the curriculum development process was likely to facilitate professional as well as personal ties among them.

Our model is a peer-training approach to staff development that capitalizes on the power of the curriculum development process to ensure needs-based training, the institutionalization of ongoing staff development, and the facilitation of communication and cooperation among special and vocational educators. Project design and implementation have been consistent with this philosophy and have addressed the previously stated objectives.

## Procedures

Project activities were carried out in three phases: (a) planning, (b) implementation, and (c) outreach. The procedures are presented briefly to provide an overview and sequence of project activities. Figure 1 provides a time line of major project activities. The next section will detail the strategies we used to carry out these procedures.

Planning phase. During this phase, procedures and resources necessary for subsequent project activities were developed and collected. We planned for the translation of the project proposal into action, and we met with individuals in vocational and special education at the local and state levels to elicit feedback on our implementation plans. Specifically, we (a) established criteria for the selection of participating LEAs; (b) reviewed validated competencies of vocational and special education teachers in relation to vocational education for handicapped students; (c) gathered and evaluated training materials related to career/vocational education for handicapped students, the curriculum development process, and inservice education; (d) developed criteria for selecting special and vocational educators to serve as inservice developers and trainers; and (e) designed, adopted, and adapted training materials for preparing educators to be inservice providers. Numerous contacts with both vocational and special education administrators were made to explain the project and secure agreements from LEAs to participate in Project TEDDDIE.

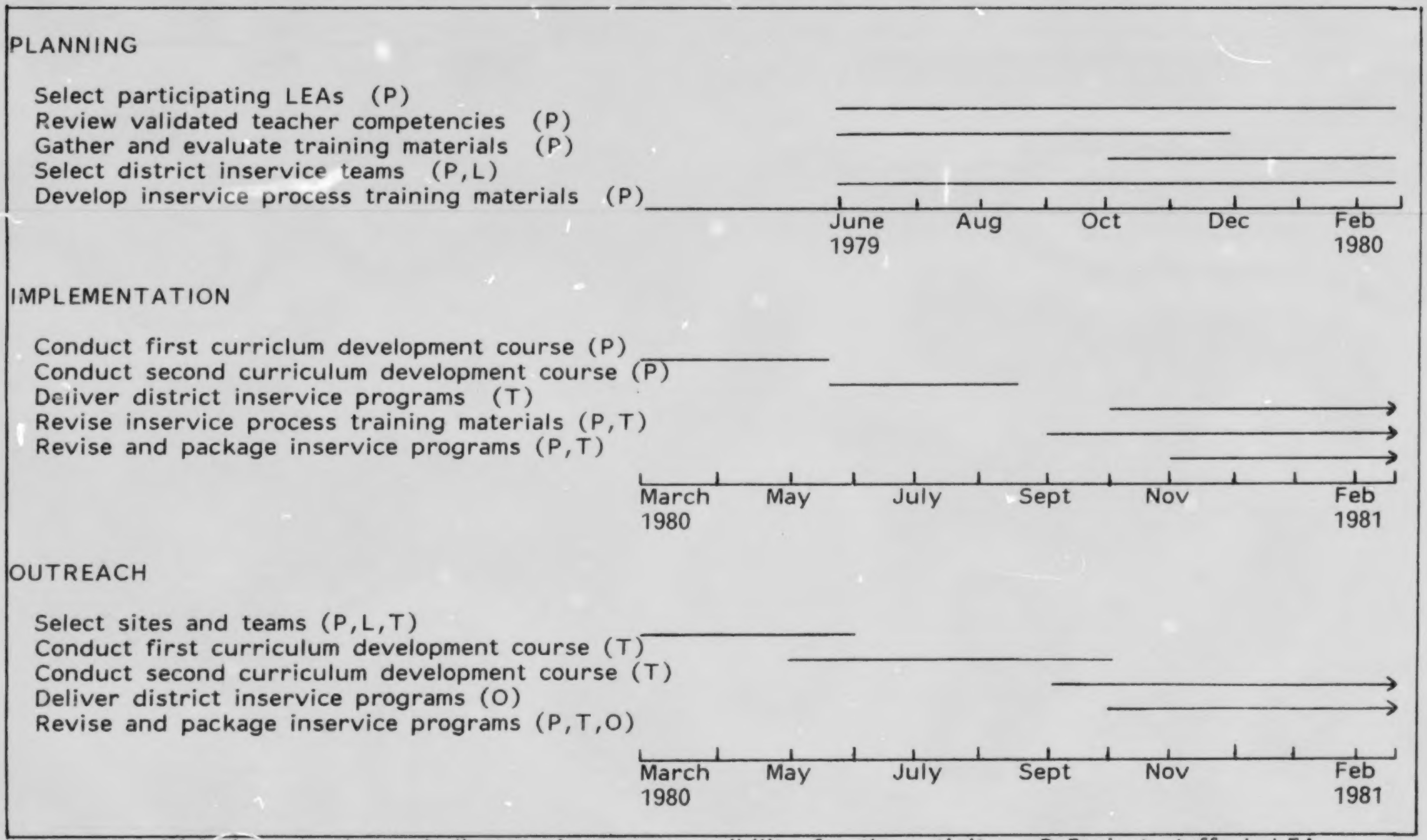
Implementation phase. During the implementaton phase, teams of vocational and special educators were trained to: (a) design (or adapt), administer, and interpret assessments of their peers' needs in relation to providing vocational education for handicapped students; (b) write inservice objectives for specified needs; (c) validate those objectives with their peers; (d) adopt, adapt, or develop inservice activities; (e) deliver inservice sessions for their peers; and (f) evaluate inservice programs. This content was delivered in two training programs. Participants could elect to receive graduate credit for their participation.

Immediately following each component of the training, team members implemented the procedures in their local district. The training was designed to result in needs-based, district-specific inservice programs for each of the three sites. The team members delivered these inservice sessions to their peers during the 1980-81 school year. Project staff assisted team members as they prepared to deliver their inservice and, following implementation, revised and refined the scripts, handouts, and other materials used in the sessions. In addition, the training program for team members was revised and refined in preparation for the outreach phase.

Outreach phase. We are just now beginning the outreach phase of Project TEDDDIE; therefore, the procedures described here are those we plan

Figure 1

TIME LINE OF MAJOR PROJECT ACTIVITIES*



KEY: Initials in parentheses indicate primary responsibility for the activity. P=Project staff; L=LEA administration; T=Inservice teams; O=Outreach teams

* In addition, evaluation and dissemination are ongoing activities throughout the project period.

to follow. During the outreach phase, the original teams of vocational and special educators will train additional teams to design, develop, and deliver inservice education. These additional teams will be trained to use the same inservice development skills to design their inservice programs. This training is now in progress and will continue into the summer of 1981. In the fall, these additional teams will deliver needs-based, district-specific inservice for their peers. The original teams will provide technical assistance to the additional teams with project staff assisting the original teams. TEDDDIE staff will also be preparing both the inservice development training program and the district inservice programs for dissemination. Project design also includes a major training conference to provide teacher trainers, inservice providers, and state department personnel with sufficient information to replicate the project model.

## STRATEGIES

The approach to staff development described thus far resulted from our professional experience as inservice providers and participants. These activities led us to the development of a set of strategies that we believed would be effective. These strategies are described in three areas related to the major project activities: (a) planning, (b) training inservice providers, and (c) inservice delivery.

### Planning

We felt very strongly that administrators of LEAs as well as representatives of the SEA and POs would be most supportive of the goals of the project if they were involved from the beginning. Therefore, as the initial proposal was written, administrators from ten school districts, two representatives from the Kansas State Department of Education, and representatives from three professional organizations (Kansas Vocational Association, Kansas Federation Council for Exceptional Children, Kansas-National Education Association) provided input and support for the design of the project. These same individuals participated in a major planning session during the second month of the project, and a structure was established to maintain their involvement.

These individuals as well as representatives from other IHEs in Kansas agreed to serve the project throughout its tenure as an advisory pool. They were available to use when we needed feedback or advice in their particular area of expertise, and they also observed and critiqued inservice sessions presented by our trainees. In addition to these initial activities, three other planning activities and the strategies used in their implementation will be discussed: (a) selection of participants, (b) collection of inservice materials, and (c) preparation of training materials.

## Selection of Participants

Local education agencies. A major task early in the project was the identification and selection of the vocational and special education administrative units that would participate. A tentative list of criteria was formulated, submitted to the state advisory pool for review, and revised. These criteria were established:

1. Commitment to participation with Project TEDDDIE over a 2½ year period, including
   a. identifying team members
   b. supporting needs assessment and validation activities in the LEA
   c. offering staff development programs for vocational and special educators
   d. cooperating in evaluation efforts
   e. supporting team members as they train teams from other LEAs
2. Agreement to provide released time for staff development activities for vocational and special educators
3. Establishment of a local advisory board or steering committee

These criteria were, and still are, considered essential to gain support for and commitment to project activites.

Contact persons. In order to facilitate communication with the LEAs, a primary contact person was identified at each site. This person served as the major link among TEDDDIE, the teachers, and the administration. The contact person was identified and selected by the LEA administration in all instances with the primary criteria being an interest in and a commitment to our approach to inservice education.

Teachers as staff development team members. Our strategies for selecting teachers to be trained as inservice providers involved seeking volunteers from among the better teachers in the LEA. Our selection criteria were:

1. Commitment to a 2½ year involvement with Project TEDDDIE
2. Demonstrated teaching skills
3. Leadership ability
4. Teaching experience (7-12 years)
5. Enthusiasm
6. Openness to innovative ideas
7. Residence in the community in which LEA is located

Several of these criteria were specified to combat attrition. For example, we sought teachers who had several years of experience and who were residents of the community because they were less likely to move away during the course of the project. In addition, as another measure to combat the effects of attrition, we chose three (or more) team members at each site. Thus, if one team member did move (or for some reason decided to discontinue their involvement), two members would remain to continue project activities at that site.

## Collection and Organization of Inservice Materials

Early in the project, we began to collect inservice education materials related to career/vocational education for handicapped students. We knew that many materials existed, and we believed that these could be adapted to fit the specific needs of our sites. Materials were obtained and catalogued by their content objectives to increase their usefulness to our participants. In addition to these content materials, we also collected materials related to curriculum development and the "process" of inservice education.

## Preparation of Training Materials

To accomplish the training objectives of the project, we prepared materials to train vocational and special educators to apply the curriculum development process to the development of inservice education. These materials included procedures for developing inservice education (needs assessment, writing objectives, validating objectives, designing activities, strategies for inservice delivery, evaluation of inservice activities) as well as material about related topics (safety, vocational and special education legislation, myths regarding employment of the handicapped, teaching techniques). In addition, materials were developed to prepare the initial teams to train other LEA teams to design inservice programs. These materials included topics such as building a team concept, dealing with defensive behavior, and effective communication. Both types of training materials were essential if the original team members were to design and deliver inservice for their peers and to train teams from other LEAs as inservice providers.

## Training Inservice Providers

Strategies to meet the training objectives of the project involved: (a) those used with the original teams (implementation phase) and (b) those used with the additional teams (outreach phase).

### Original Teams

We hypothesized that if vocational and special education teachers were to be trained as inservice providers, they would require knowledge, skills, and experience with aspects of the curriculum development process applied to inservice education. Therefore, we designed two training programs to provide such knowledge, skills, and experience. These programs were offered as two courses available for university credit--Course I and Course II.

Course I. We offered the first course for three hours of credit. Tuition, per diem, and travel costs were paid for the participants, and the course was held at one of the cooperating sites, centrally located in the state.

The course was held on four weekends (45 clock hours of instruction) during the spring of 1980. Weekend sessions were scheduled from one to three weeks apart to allow participants ample time to apply the skills in their LEA. This timing was essential to allow the participants to learn new skills, immediately apply those skills in their LEA, and return to the next session with information to use at the next stage of the inservice development process. The course had two major objectives. First, we attempted to facilitate communication and cooperation between vocational and special educators by involving them in a common task or problem. Second, we attempted to train the teachers to: (a) conduct an assessment of the strengths and needs of their peers related to career/vocational education for handicapped students, (b) write objectives for inservice education from those needs, and (c) validate those objectives with their peers. The special and vocational educators learned these skills in course sessions and implemented them before the next class session, thus creating a strong experiential component for the training course.

Course II. Like the first course, Course II was offered for three hours of credit. This course was conducted during the summer of 1980 on the university campus. Fifty clock hours of instruction were conducted during two weeks--one week early in June and another week early in August. This split scheduling, determined by the participants, was chosen to account for vacation time, access to classrooms and facilities, and participants' work schedules. During the first week, the team members participated in model inservice sessions as well as in instruction and discussions about preparing and delivering inservice. The teachers also reviewed existing inservice training materials collected by the project and matched them to their validated training objectives. Initial work on scripts for inservice sessions was begun; however, the major work on these scripts was completed during the second week of this course. At this time, the team members also prepared handouts and audio-visual materials for their sessions, practiced their programs, and were critiqued by TEDDDIE staff and other participants. In addition, participants reviewed and either selected or designed evaluation procedures for their inservice sessions.

Some content regarding career/vocational education for handicapped students was presented during Course I in the form of handouts (e.g., facts and myths regarding employability of the handicapped), but participants expressed a need for more. Therefore, content sessions were presented as "mini-inservice programs" so particpants could both learn the content and critique the presentation format. Included were:

1. A slide tape show on career education
2. A lecture on learning strategies and classroom management
3. Several films
4. A tour of the Kansas State School for the Visually Handicapped
5. A tour of the Cottonwood Sheltered Workshop
6. A discussion of classroom strategies

In addition, participants were given written material on the following topics:

1. Legislation related to career/vocational education for handicapped students
2. Career education
3. Instructional techniques for handicapped students
4. Vocational evaluation

Finally, several resources were made available for participants to review during the week. These included vocational curricula for handicapped students, texts on vocational programming for handicapped students, and packaged inservice programs in the areas of career/vocational education for handicapped students and educating handicapped students in the least restrictive environment.

Technical Assistance. In addition to providing the training, TEDDDIE staff also provided technical assistance to the team members as they carried out activities in their districts. Technical assistance activities included phone calls, mailings, and visits by project staff to assist in conducting specific inservice development activities. Inservice scripts and handouts were critiqued by TEDDDIE staff, and feedback was provided to the LEA teams. In addition, audio-visual materials were prepared by our staff according to the LEA teams' specifications.

## Additional Teams

We were strongly committed to the generalizability of the skills acquired by the original teams and plan to multiply the effect of the training by having the original teams train teams from other LEAs. This activity has just begun. All strategies discussed above will be used to train the additional teams. However, the original teams will now deliver content related to the design, development, and delivery of inservice education using the inservice delivery skills acquired in their training. TEDDDIE staff will provide technical assistance to these original teams as they train the additional teams. Those instances in which new strategies were employed or previously used strategies were modified are described below. Therefore, these strategies represent changes as a result of our experience in training the original teams and are now being tested.

Selection of participants. Initially, project staff contacted districts interested in participating at this stage of the project. Currently, the original teams (and the contact persons at each site) are working directly with the new sites to: (a) secure an agreement to participate, (b) identify a contact person, and (c) select team members. This teacher-to-teacher contact is considered critical to "selling" the approach to other teachers.

Course I. In preparation for the delivery of Course I to the additional teams, original team members reviewed the inservice process training materials. Based on their feedback, the amount of content to be presented in Course I for the additional teams was reduced. In addition, this content was modified and presented in a step-by-step format. These revisions were based on original participants' reviews as well as formative evaluations conducted during the delivery of Courses I and II to the original teams. Although original teams had been expected to master large amounts of background information about inservice development in preparation for teaching this process to others, this expectation is not held for the additional teams because they are not expected to teach these procedures to others. The knowledge and skills related to needs assessment and selecting and validating objectives will be delivered to the additional teams in two full-day sessions (16 clock hours). As before, both instruction and experience will be provided as the additional team members learn the skills and apply them in their own districts. Both the original and additional team members will be paid for their participation in this course.

Course II. Course II for the additional teams, just as Course I, will be shortened. This course (approximately 25-30 clock hours) will involve designing and adapting activities for inservice sessions, practicing and revising scripts, and planning evaluation activities.

Technical assistance. The technical assistance activities of the TEDDDIE staff will change at this stage of the project. We will provide assistance to the original teams as they train the additional teams rather than providing assistance directly to the additional teams. The original teams will be responsible for assisting the additional teams.

## Inservice Delivery

Inservice programs are delivered by the original and additional teams at different times during the Project. The original teams delivered their inservice sessions during the 1980-81 school year (implementation phase), and the additional teams will deliver their programs during the 1981-82 school year (outreach phase). Several strategies, common to these inservice programs, will be discussed as will the inservice programs of the original teams.

### Inservice Proposal

We believed the initial stage of inservice delivery would have to be the submission, to local administrators, of a written proposal describing the inservice program to be provided, its goals, activities, and projected outcomes. However, none of the LEAs had a format to follow for such proposals, and our participants had no experience in preparing these documents. We developed a standard format for inservice proposals that we felt provided the critical information administrators would require, and we trained our participants to complete such proposals.

### Administrative Considerations

In order for the inservice program to run smoothly--from the request to publicity to the actual event--a great amount of administrative support is necessary. We found that this support involved not only visible support (such as secretarial assistance for duplicating and providing facilities for the inservice program) but also support for the concept of teacher-designed inservice and for the efforts of the team members to prepare that inservice.

Time is a significant administrative concern in two ways. First, time must be scheduled on the district's calendar for the inservice. Determination of the amount of time to be allotted has a great impact on the selection of objectives to address and the type of activities designed for the inservice session. Second, extra time must be provided for team members to complete the final details as the date for the inservice approaches. This extra time is needed so last minute tasks can be completed. It also demonstrates administrative support and builds the team members' confidence.

## Technical Assistance

Throughout the delivery of the inservice programs, technical assistance was provided by project staff. Technical assistance activities included phone and mail contacts, visits to the districts to assist in planning the inservice program, visits to observe the inservice sessions, and assistance in preparing handouts and audio-visual materials. TEDDDIE staff also continued to review, organize, and catalogue materials related to vocational preparation of handicapped students, inservice development and delivery, and curriculum development.

## Inservice Programs

Delivery strategies. We knew that a broad array of strategies for delivery of information to teachers should be used in inservice sessions. We attempted to model various delivery techniques and formats in our instruction so participants would be aware of alternative strategies. Information about their peers' preferences for inservice programs was obtained as needs were assessed, and this information was used to select formats for specific learning activities.

Although all the strategies emphasized during training cannot be presented here, a few very important ones will be highlighted.

1. Be organized; start and stop on time; stick close to your schedule.
2. Demonstrate to participants that the needs they specified are being addressed.
3. Clearly state the objectives of the session and the procedures for meeting those objectives.
4. Provide "organizers" for the participants--an outline of the session, handouts, and lists of resources.
5. Deliver the content in a clear and concise manner. Use a variety of formats appropriate to the content.
6. Adapt the amount of content to the length of time allotted for the inservice program.
7. Use other people (peers, administrators, university trainers, employers, vocational rehabilitation counselors) as resources when their expertise matches the stated needs of the participants.

8. Use media only when its use matches stated needs and serves to enhance the information being presented.

9. Evaluate the inservice session to determine its impact.

Programs delivered. Using these strategies and drawing from all the knowledge and skills acquired in Courses I and II, as well as on their own content expertise, the teams have provided several inservice programs. Short descriptions of some of these follow.

One team presented a full-day program. Although the major topic was "Methods of Adapting Instructional Materials," other topics were addressed as well. Guest speakers spoke about epilepsy, a senior citizen volunteer program, and obtaining state funds for vocational special needs programs. The film "A Day in the Life of Bonnie Consolo" was shown and followed by the guest appearance of a teenager born without arms. He talked about his life and his interest in vocational training in electronics, answered questions, and demonstrated how he could put together a model car. The team demonstrated several techniques for adapting materials by showing their audiences how they adapted excerpts from several texts currently in use at the area vocational technical school. They also conducted simulations of several handicapping conditions.

Another team presented several two-hour programs. During one focusing on "Tips for Teaching Special Students" a vocational instructor and a special educator each presented a selection of tips to a mixed audience of vocational and special educators. The topic of another was "Safety Considerations for Special Students in Vocational Classrooms." While one team member presented a program on learning strategies to special educators, two other team members presented the safety program to vocational educators. The program included a discussion of problems, a presentation on how to include safety in lesson plans and how to adapt some safety awareness activities for special students, and a guided tour of some of the vocational classrooms. Several special educators joined this tour and two of the vocational instructors demonstrated some specific safety hazards.

The other team's inservice programs focused more on cooperation between vocational and special educators than on specific teaching topics. A formal agreement has been signed by administrators of both programs, and team members are working with other personnel to explain and implement the agreement. As part of the cooperation, for example, each vocational instructor has completed a checklist indicating eligibility requirements (e.g., hand-eye coordination, tolerance for noise) for his/her area. Each counselor and special educator has received a packet that includes the completed checklists as well as readability levels for the texts used in each classroom. This information will help counselors and special educators guide students to appropriate programs. In addition, at a recent area vocational technical school faculty meeting, the special education member of the inservice team explained several characteristics of special students the vocational instructors might find in their classrooms. She discussed how they could deal with some of the problems that might arise and also explained how the special educators could help.

All the teams included handouts as parts of their programs so that teachers would have concise reference material to use after the inservice program. In addition, team members volunteered to help their peers, individually or in groups, as they tried to put into practice some of the ideas they learned regarding career/vocational education for handicapped students.

The strategies presented in this section were designed to assist teachers in providing inservice for their peers. Although they were effective in achieving this goal, stumbling blocks still existed. Specific problems and some solutions are presented in the next section.

## PROBLEMS/SOLUTIONS

Although we believed our planning had been very careful, unanticipated problems arose in our implementation. This section is organized in the same format as the preceding section so the problems and solutions may be compared with the strategies used to implement project procedures. This section is divided into three areas related to the major project activities. Problems and solutions will be discussed in relation to each area.

### Planning

#### Selection of Participating LEAs

Problems. Three major impediments related to administrative commitment hampered the selection of participating LEAs. First, despite the involvement of administrators in the initial planning of the proposal and our efforts to maintain their interest while the proposal was reviewed, many administrators chose not to participate when we began seeking participants. Second, the variety of administrative structures we had to approach and a lack of commitment from the administrators affected the time line of our activities. Third, once we obtained agreement from some LEAs, we did not obtain the degree of commitment we desired. Although we attempted to obtain formal agreements of participation, many districts were unwilling to commit themselves to this degree.

Solutions. We found it necessary to approach more districts than we actually planned to include. Although this approach was necessary, it sometimes put us in the position of keeping some districts "on a string." However, approaching more districts initially was better than scurrying to locate one at the last minute would have been.

#### Selection of Contact Persons

Problems. Contact persons were, without exception, selected by LEA administrators. We had both positive and negative experiences with contact persons. Communication was often a problem. Although we provided no actual training for these individuals, we provided written descriptions of project goals and project activities and held face-to-face meetings and many phone conversations with them. We found that often contact persons were not able to accurately communicate with team members. Problems arose because of their inadequate understanding of project goals and because of inappropriate expectations of project staff and the impact of the project in their district.

Solutions. We found that keeping the contact persons adequately informed required much more time and effort than we anticipated. Those contact persons who were most helpful and of greatest value to project efforts were those who perceived the project as augmenting their role and contributing to a pool of resources in their area. Although we planned to communicate directly with contact persons and team members for different reasons, in some cases our communications were limited to team members only.

## Selection of Teachers

Problems. Although we felt it would be best if teachers volunteered for training, administrators insisted on selecting the participants. We were unable to contact large numbers of teachers, present our plan, and solicit volunteers. This situation resulted in teachers who in many instances had been "drafted." They had received inadequate information about the project and, therefore, initially were not totally committed to the concepts of the project.

Solutions. To maintain our relationships with the administrators in the LEAs, we had no choice but to let them select the teacher participants from their districts. The negative results of this selection procedure were countered by our spending a great amount of time at the first training session explaining and "selling" the project to the teachers. Although we wondered how many would return, we lost only one participant after our sales pitch.

## Collection and Organization of Training Materials

Problems. Several impediments were encountered in collecting content and inservice process materials. First, we were unable to locate more than a handful of materials related to the inservice process and the application of curriculum development procedures to inservice development. Those materials that were available in this area were generally not written for teachers but for experienced curriculum developers and inservice providers. Second, materials were difficult to locate and publishers' descriptions often were misleading. It took a long time to receive some materials once they had been ordered, and often, these materials were more expensive than anticipated. Third, content materials frequently presented too much information at one time, and our participants had difficulty applying the concepts to their own areas. Fourth, the materials varied greatly in quality and completeness.

Solutions. In ordering content materials, we found it necessary to plan ahead and order well in advance of the time that we needed the material. We often were able to borrow materials from resource libraries and other projects on campus (for example, the Deans' Grant Project) that had similar goals related to the education of handicapped students. We developed our own inservice development training materials by adapting ideas and resources available on specific inservice programs and on curriculum development in general. To assist in organizing and reviewing our content materials, we developed a standard review format that allowed us to catalogue the materials by their content objectives. After our original teams had specified their inservice objectives, we reorganized the available content materials according to these objectives to facilitate their use of the materials. As the project has progressed, we have become aware of more materials that are potentially useful in developing inservice programs. These materials will be available to the additional teams during the outreach phase.

## Preparation of Training Materials

Problems. Because of the delay in selecting participating sites and team members, we had to begin preparation of training material before we had assessed the needs of our audience. Thus, although we knew what content the training materials should contain, we were unsure of the team members' level of skills in these areas and how detailed our materials needed to be for each phase of the inservice curriculum development process.

We also found that simply providing training in designing, developing, and delivering inservice was not enough. Our participants needed information about critical areas related to inservice education in career/vocational education for the handicapped, such as legislative requirements, employment possibilities and realistic problems, and teaching tips that work in vocational classrooms.

Solutions. We designed a flexible set of materials for the first training session, and we administered a pretest before using them and before completing training materials for the remaining sessions. For the extra areas in which our participants required assistance, we located, designed, and adapted necessary materials. These areas were considered crucial to the success of inservice programs and, thus, well-worth the time and effort we spent on their development. The training we provided in career/vocational education for the handicapped is discussed in the strategies section, under Course II. Our participants felt much more comfortable about being able to develop and deliver inservice programs after receiving this content, but still expressed some doubts. We were able to dispel these final doubts by assuring them that they did not need to claim complete expertise during their inservice programs.

## Training Inservice Providers

### Original Teams

Course I--Problems. Several impediments to the implementation of Course I existed. First, as mentioned previously, because we did not have direct contact with our participants before they came to the first session, they lacked an adequate understanding about the project, and they generally were not convinced of the project's value. Second, although we expected that the participants would come from different backgrounds (special and vocational education), team members often came from different districts. Thus, they arrived at the first session as strangers to each other even though they were from the same site. Third, although we administered a pretest, it was difficult to balance the amount and type of content we presented. For example, pretest results indicated participants were not as familiar with needs assessment as we thought they would be from assessing their students' needs. Although we increased our training in this area, we were not prepared for their resistance to the notion of systematically and painstakingly assessing needs.

Course I --Solutions. At the beginning of Course I, we spent a great deal of time explaining the project and convincing the participants of its value to them, their peers, and handicapped students. We also spent time building the groups into "teams" by acquainting them with each other's roles (e.g., describing a typical day) and noting similarities and differences. In each team, we attempted to help members see each other's strengths and how they complemented each other. However, the most important strategy for developing a team concept was simply proceeding with the task at hand--involving the vocational and special educators in solving the common problem of developing needs-based inservice for their district. To solve the "content" problem, we prepared a supply of supplemental handouts to use as needed, we often repeated the importance of various steps in the inservice curriculum development process, and we arranged for individual help for those who needed it.

Course II--Problems. We became aware, during Course I, that one impediment to the success of Course II was the real, and participant-imagined, lack of content knowledge. In some instances, the participants simply lacked confidence in their own abilities, whereas in other instances, they actually did not have the knowledge they needed to meet their peers' needs. As we prepared for Course II, we also realized that many of the published inservice packages and related materials were going to be of little value. The materials were often too complex, or the context was quite different. Frequently, the team members had difficulty making analogies and relating the materials to their own situation. During Course II, as the participants prepared and practiced their inservice programs, we discovered that most of them had little confidence in their ability as peer trainers. They felt their peers would not accept them as "experts" in integrating handicapped students. As a group, they had little experience teaching adults and little confidence in their ability to do so.

We found our team members' skills in planning for evaluation of inservice programs were so minimal that the evaluation strategies they chose or designed for their inservice sessions were quite superficial and less sophisticated than we had desired.

Finally, we held the first week of Course II immediately after school was out (first week in June). The participants were tired, and the timing was definitely poor.

Course II--Solutions. The need to present content for the participants provided a unique opportunity to model "good" inservice practices. We selected presenters for their content contributions and also for their varied styles of presentation. Subsequent discussions and evaluations highlighted not only the content but also elements of style, delivery, and specific techniques for inservice sessions. Thus, our teams benefitted both from the content and delivery of these sessions. With this background and because published inservice packages were of limited value, the teams developed their own scripts for inservice sessions. They used material from published inservice packages and from the sessions they observed only when that material matched the objectives and delivery formats they had identified. As they progressed in developing and practicing their scripts, we saw them grow, as individuals and teams, gaining confidence in their ability to train their peers. We finally realized that the process of developing this confidence is developmental in nature and that an individual's self-concept as a trainer takes time to develop. To counteract their lack of experience in teaching adults, we provided opportunities for them to present to project staff and other participants. These simulations were critiqued, feedback was provided, and scripts were revised accordingly. Then, they practiced again.

Although the evaluation strategies were not as sophisticated as we hoped, we believed that the participants should select strategies that worked for them and provided the type of feedback they desired. It is clear that the use of evaluation strategies is also a developmental process; some groups that were more sophisticated in their development of inservice programs selected more detailed and complex evaluation strategies.

The weariness of participants during the June session was not observed in the August session. We, therefore, concluded that a resolution to this impediment would be to schedule the session after the teachers had a break. Scheduling the first week of the course four to five weeks after the end of the school would probably make a great difference in the participants' attitude and motivation.

Technical Assistance--Problems. The selection of sites in central and western Kansas (150 to 400 miles from the project site) created problems for us in providing technical assistance. The distance translates into money; specifically, we simply did not have enough money to travel to the sites as frequently as we would have liked. Communication had to be carried out primarily by phone or through the mail. Although we tried to call frequently, we could not anticipate when our participants would need encouragement or help. Sometimes, they did not call us when problems arose, thus, creating additional problems.

Technical Assistance--Solutions. To help resolve the problems encountered with technical assistance, we attempted to more clearly define the assistance we could provide for the participants yet, at the same time, remain open to provide other types of assistance when appropriate. We visited the sites as frequently as we could, but mostly, we made extensive use of the mail and the telephone. We solicited the most convenient times to call our contact persons and our team members and called frequently to chat, provide encouragement and information, and help solve problems. We also provided and requested information by mail, structuring our requests for review or information to minimize teacher time. Sending stamped self-addressed envelopes for the teachers to return their responses was another strategy employed to minimize their time and effort. We often alerted them by phone that requests for information or feedback were coming through the mail.

## Selection of Additional Teams

Problems. As we began to approach LEAs for the outreach phase of the project (those LEAs to be trained by our original teams), we encountered many of the same problems as before (refer to the section on Original Teams) in addition to some new ones. First, we again had to deal with visibility, publicity, and communication of project goals and objectives in the LEAs. Administrators tended to think we were planning to deliver the inservice programs rather than train inservice providers. Second, we expected the contact persons and the original teams to make many of the contacts with the new LEAs to give a colleague-to-colleague perspective. This created several problems. The contact persons sometimes had insufficient understanding about TEDDDIE to fully inform administrators in the new districts, whereas our teachers had insufficient time to make the contacts. For both of these groups, TEDDDIE was not their first priority. In addition, we found that although our original teams felt a strong commitment to providing inservice for their peers in their own LEA, their commitment to training teachers from other districts to design inservice was not as strong. This level of commitment was also reflected by the district administrators and some contact persons. In addition, we found that the time required to secure participation of LEAs was longer than anticipated.

Solutions. To secure viability and communicate goals and objectives for our projects in order to select participants for this phase, we used several tactics. For example, we: (a) kept state department personnel in vocational and special education informed, and they spread the word; (b) provided information at the state conferences for vocational and special educators; and (c) solicited recommendations from our original districts. We resolved the problems of contacting new districts by making more of the contacts ourselves rather than relying on individuals in the original LEAs to make them. A great amount of encouragement and support for our original team members was necessary to bolster their confidence and commitment to train teachers from other LEAs. We found no solution to the time problem of securing cooperation except to plan for it, maintain contact, try to be patient, and assume greater responsibility for some tasks we had planned for the contact persons and team members.

## Training and Technical Assistance for Additional Teams

Because we have not implemented the activities with the additional teams, we are not fully aware of the problems that may arise. However, based on our experiences with the original teams, we can project potential impediments and have formulated some questions for which we will be seeking answers. If the responses are negative, these situations will be potential impediments to implementations. First, will the shortened courses provide enough information for the additional teams to develop inservice programs? Second, can the trainers (original teams) that we trained effectively train other trainers (additional teams) to develop and deliver inservice for their peers?

The nature of technical assistance will change as more teams become involved. We will assist the original teams, and they, in turn, will assist the additional teams. The critical question here is, again, teacher time. Will our original team members have sufficient time to provide technical assistance to the additional teams as they design and deliver inservice programs?

Although the resolutions of any problems encountered in these activities are yet to come, we hope our planning will allow effective implementation and minimize impediments. We shortened the courses based on feedback from the original teams; thus, the courses now contain the information considered critical by our field-test participants. We may find as we implement technical assistance at this stage that the project staff will have to provide a greater amount of assistance to the additional teams because of the time constraints on the original teams.

# Inservice Delivery

## Administrative Considerations

Problems. Very little administrative support was evident during the delivery of the inservice sessions. In some instances, the administrators' support ended at scheduling and announcing the date and did not extend to attending the inservice. Such action resulted in the team members questioning the value of their efforts. Despite our efforts to promote the TEDDDIE inservice as an ongoing system of inservice and staff development, very little time was allotted for the inservice sessions in the LEAs. For example, in one LEA, only two and one-half inservice days were allotted for the entire year; TEDDDIE was given one-half day of that time. Consequently, few of the identified needs for that district were addressed. Another time-related problem was that of preparation time for our team members. Although we attempted to secure administrative agreements for this time, it did not happen in all sites as the administrators assured us it would. Much of the preparation time came from our teachers after school hours. The philosophy that teachers are not doing their job unless they are with students still prevails and definitely hampered our efforts.

Solutions. We tried to encourage administrators to support their team members, and we urged team members to keep their administrators informed about their activities related to TEDDDIE. Feedback from administrators did occur and was meaningful to our team members, especially when they knew it came from the administrators' personal observation rather than secondhand reports. Our team members devised several ways to counter the limited direct contact time in inservice sessions. One team used a newsletter to notify their peers of meetings and to pass on teaching tips for working with handicapped students. They also made themselves available as resources to discuss integration of handicapped students with their peers on an individual basis. Print material distributed in inservice sessions extended the information presented in those sessions. Solutions to the lack of preparation time during in-school hours were not easy to achieve. Basically, the team members demonstrated a high level of commitment and completed the task even though the time came "out of their hides." We changed our technical assistance activities to provide more support and more resources for preparation of materials as one strategy to minimize the demands on their time. We encouraged administrators to grant released time to their team members, often using other administrators who did so as examples. In addition, we praised administrators who gave overt encouragement to their teams and those who gave released time.

## Inservice Programs

Problems. The greatest impediment to the delivery of inservice was its history. Teachers have a poor attitude toward inservice because of negative past experiences. They came into the sessions expecting more of the same--inservice that wasn't designed for their needs; ideas that were theoretical, untried in classroom settings, and impractical; and inservice that was delivered by outsiders, lacking credibility in their district. These prior expectations were very great impediments. In some districts, teachers were required to attend the inservice sessions. Thus, there often were teachers in the audience for whom the inservice content had little relevance because their needs were not high priorities for their peers. Inattentive behavior on the part of some of the teachers distracted others in the audience and frustrated the inservice providers.

Solutions. Some of these problems were accounted for in the design of the inservice delivered in each LEA. The only way that negative expectations of inservice could be destroyed was to deliver inservice programs designed specifically for teachers' needs, and our teams did. Each inservice program was opened by demonstrating to the teachers that it was based on needs they had identified in the needs assessment. Thus, except for the situations described above, the inservice programs were based on the needs of the individuals who attended; they were delivered by teachers who were known and respected by their peers; and they were practical and oriented to the classroom, because they were delivered by individuals from the classroom. Evaluations of the sessions demonstrated that these strengths were perceived and valued by most of the participants. Evaluations were extremely positive, and our team members were rated highly on addressing needs and conveying practical teaching techniques.

## EVALUATION

The preceding sections of this chapter discussed project objectives and procedures. Although there are individuals who claim the ultimate goal of any inservice program is improved student achievement, and that, therefore, child change is the most appropriate criterion for evaluating inservice programs, it should be clear that one major goal of this project is improved inservice practices. Inservice is seen as a normal process of professional growth. Therefore, the most important evaluation criterion for this project is teacher change. Teacher change is important not only as a forerunner of child change but also in its own right.

The following "claims of effectiveness," then, primarily focus on effects on the teacher. It is hoped that many effects will combine to produce better career/vocational education for handicapped students. However, if inservice education is to produce child change, it can do so only through teacher change. When we are discussing regular teachers whose primary responsibility is toward regular students, we cannot expect an inservice program or two to have a measurable effect on handicapped students.

Project claims, for which existing and desired evidence will be discussed, include the following:

1. Teachers have been trained to design, develop, and deliver inservice education.
2. Effective inservice programs have been designed, developed, and delivered by teachers.
3. Cooperation among vocational and special educators has improved (increased).
4. A multiplier effect in which trained teachers train others to design, develop, and deliver inservice education has begun.

5. Handicapped students are receiving improved career/vocational education.

## Teachers are Trained

In order to design, develop, and deliver inservice education programs, a teacher must possess a variety of skills. One would expect teachers to possess some of these skills, to the extent that inservice education parallels secondary special or vocational education. Yet there is no reason to expect them to possess other skills common to inservice education and program development and evaluation.

A pretest was designed to assess teachers' skills applicable to the inservice curriculum development process. Because several of the skills are generic, the test items were written in general terms. For example, the assumption was that an individual skilled in developing goals and objectives, would use that skill in an appropriate situation and would not need to be directed to write goals and objectives for that situation.

Eleven teachers completed the pretest, which included essay questions designed to tap skills in the following areas: (a) goals and objectives, (b) needs assessment, (c) inservice delivery alternatives, and (d) evaluation.

Content analysis of their responses revealed that most teachers understood the concept of goals and objectives but few had even an awareness of needs assessment and evaluation principles or of the variety of delivery alternatives available for inservice programs.

The extent to which teachers acquired the necessary skills was assessed in the following ways:

1. Staff observations during training sessions
2. Staff review of inservice products developed
3. Formative evaluation comments made by the teachers
4. Comparison of final examinations with pretests
5. Staff and audience evaluations of delivered inservice programs

Staff observations. Staff met regularly during the course of the training to assess progress and make plans for upcoming training activities and materials. Consensus was that teachers were learning the skills, although they were not always convinced of their importance.

Inservice products. Teachers developed several products during and subsequent to their training. Products developed included the following.

1. Needs assessment instruments
2. Written inservice goals and objectives

3. Inservice program planning outlines

4. Inservice program materials (transparencies, agendas, handouts, scripts for lectures, discussion questions)

5. Evaluation procedures

Staff compared these products with guidelines suggested in the literature and with products developed by individuals with professional responsibilities for inservice education. The teachers' products were evidence that they learned the skills.

Formative evaluations. Several formative evaluation instruments were administered throughout the course of the training. One topic addressed was teachers' perceptions of what they were learning. Teachers agreed that they were learning useful information about developing inservice programs.

Final examination. A final examination was administered at the conclusion of the second training course. Instead of administering an alternative form of the pretest, a more straightforward exam was developed. This gave teachers who had acquired inservice skills but had not yet generalized them to other situations an opportunity to display their knowledge. Nine essay questions addressed the following topics:

1. Content, presenter style, and audience needs in relation to choosing a delivery format

2. Purposes of warm-up activities

3. Alternative closings for inservice programs

4. Inservice media

5. Lecture "scripts"

6. Inservice evaluations

7. Coping with problem participants

Ten teachers completed the examination. Responses were scored excellent, adequate, or less than adequate. Of the 90 responses, 25 were judged excellent; 9, less than adequate; and the remaining, adequate. No individual received a less than adequate score on more than two questions.

Inservice evaluations. Staff and audience evaluations of the inservice programs, which will be discussed more fully in a subsequent section, were overwhelmingly positive. Since pretest information and participants' comments indicated that they knew little about the provision of inservice education and were not sure they could do it before taking part in our training, we conclude that they would not have been able to provide effective inservice programs, and probably would not have tried, had they not been trained. To date, each of the eleven participants has had a role in the provision of at least one inservice program.

When the original teams train the additional teams to design, develop, and deliver inservice education, they will administer pretests and posttests. They may design their own and/or use the ones designed by project staff. In addition, both project staff and original team members will monitor the additional teams' acquisition of inservice skills by employing the methods project staff used to monitor the original teams.

## Inservice Programs are Effective

Criteria for determining the effectiveness of an inservice program include the following:

1. Appropriateness of content
2. Audience perception of worth
3. Presenters' perception of effectiveness
4. Audience change

Appropriate content. The teachers designed their inservice programs to address needs expressed by their colleagues. This suggests that the content of each program was appropriate. However, if an inservice is to be judged effective, not only must the topics covered be appropriate, but the amount and level of content must be appropriate as well. If too much is covered too quickly, or if advanced knowledge is provided before awareness is built, for example, the audience is unlikely to benefit from the content. These inservice programs were developed by teachers whose level of knowledge regarding the content to be delivered was the same, initially, as that of their colleagues. In developing the programs, they sought information that would help them meet their own needs. In every case, project staff observed the teachers reducing the content they found in published materials as they prepared their own. This suggests that the content they delivered was at the appropriate "content load." Audience evaluations supported this conclusion (see the next section on audience perception).

Audience perception. Each inservice program included an evaluation segment. Audience members completed evaluation forms designed by the team members. Although there were some negative responses, the preponderance of responses to each program was positive. Audiences indicated that the speakers did a good job; that the information presented was worthwhile, and that they intended to use some of the materials and suggestions provided. Most negative comments addressed aspects of the programs that were beyond the control of the presenters (e.g. required attendance, time of day, temperature of room).

Various administrators, third party evaluators (e.g. members of State Steering Pool, IHE representatives), and staff who observed the inservice programs completed evaluation forms or made evaluative comments to the staff. Everyone was impressed with the quality of the programs. One administrator remarked that the program was the best he had observed in the fourteen years he had been at the school.

Presenters' perceptions. Project staff spoke with the inservice presenters and with contact persons both directly after the inservice programs and after a week or two. All the presenters believed they had done well. They felt their efforts had been worthwhile. Most said they did better than they expected.

Audience change. Although formal evaluation (through observation, for example) of teacher change as a result of inservice programs is advisable and desirable, it has not yet been feasible. However, several teachers have indicated their intentions to put into practice suggestions given during inservice programs.

Again, the inservice programs delivered by the additional teams will be evaluated as were those delivered by the original teams. In addition, three other strategies will be used to assess the quality of the inservice programs delivered by both sets of teams.

First, follow-up evaluations will be conducted. The teams will assess their programs through evaluation completed at the conclusion of the programs. Another evaluation effort, implemented after teachers have had a chance to act on what they learned from the inservce programs, will provide evidence of long-term effectiveness.

Second, project staff will seek both anecdotal and written evidence that teacher-based inservice programs are continued after administrative teacher commitments to the project have been realized. If teacher involvement in inservice education continues, we can conclude that the programs have been perceived as worthwhile. If it is not, we will need to determine whether the ineffectiveness of the programs or other factors led to their discontinuance.

Third, we will accept peers' desires to join inservice teams as evidence of the effectiveness of the programs. Comments from audience members indicated they realized how much work team members put into their inservice programs. If they offer to help with upcoming programs, it will indicate they believe in their worth.

## Special/Vocational Education Cooperation Has Improved

At the beginning of the project, little cooperation among special and vocational educators was occurring in the participating LEAs, although the need for cooperation was recognized. Cooperation has improved through project activities and continues to improve. Comments from teachers during training sessions revealed that the special and vocational educators were communicating with each other specifically about project activities as well as about school concerns unrelated to the project. Comments from the inservice audience indicated that cooperation was increasing in the LEAs as well. Some special educators visited vocational classrooms for the first time as part of the inservice program in one LEA. In the same LEA, a special educator commented that some vocational instructors were more willing to accept handicapped students in their classes. In another LEA, a written agreement has been developed to guide cooperation.

Three events can provide further evidence of increased cooperation among special and vocational educators, both in original and additional sites.

First, formal policy statements may be written to direct and guide communication and cooperation. Second, special and vocational educators may continue to have joint inservice programs. Finally, whether by formal edict or personal desire, there may be increased collaboration among special and vocational educators.

## Training is Multiplied

Participating teachers expressed a willingness to teach the inservice processes they had learned and practiced to new teams of teachers. This is an indication both of their confidence in their new skills and their belief in the merits of teachers as inservice providers. In addition, administrators and teachers in neighboring LEAs have expressed their interests in joining the project. Thus, the multiplier effect has begun.

All the evidence to be collected regarding the acquisition of inservice skills and the delivery of effective inservice programs by the additional teams will be evidence that the multiplier effect works. In addition, project staff and original teams will discuss their experiences and keep records in a case study fashion to document successes and failures.

## Career/Vocational Education for Handicapped Students is Improved

Evidence to support this claim is not presently available. For the future, there are at least three indicators of improved career/vocational education for handicapped students:

1. An increase in the number of handicapped students enrolled in and completing vocational classes;
2. An improvement in the grades of handicapped students in vocational classes; and
3. An improvement in the job placement of handicapped students, including more placements, more appropriate placements, longer job tenure.

Evidence regarding these indicators can be both formal records kept by school systems and anecdotal reports from teachers, students, parents, or employers. Although there are two important constraints limiting the use of formal records, evidence from this source will be sought to supplement anecdotal reports. First, because school systems have many reporting requirements, they are reluctant to collect information that is not mandated. Second, because relatively few handicapped students will be involved in each school's vocational program, sample sizes may be too small to apply appropriate statistical techniques and program differences may be too large to allow appropriate aggregation across schools.

# RESOURCES

## Cost Effectiveness

Although this project has been federally funded, The University of Kansas and the participating LEAs have contributed to the project to ensure its success. The project director is a full-time faculty member and has contributed his time at no cost to the project. LEAs have provided released time for team members to attend training sessions (necessitating hiring of substitute teachers); provided facilities for inservice development training sessions and the inservice sessions themselves; provided money and expenses for guest speakers at inservice sessions, in some instances; and provided refreshments for inservice sessions. We feel that this use of federal, university, and LEA funds has been cost effective.

Cost effectiveness is easiest to determine when the outcome (impact) in question is primarily economic in nature. Although there is certainly an economic aspect in the expected impact--the education children receive can have an effect on their subsequent earning power and on their degree of independence from public support--the primary benefits of the project relative to exceptional students are noneconomic. Three primary benefits accrue from the implementation of this project.

First, the trainer of trainers model evolved as a cost-effectiveness measure. Its effectiveness results from training an initial group of individuals who then train others. In this way, the training effort is multiplied at minimal cost.

Second, this project carries the trainer of trainers model one step further. By training participants to: (a) deliver content and (b) train others to be inservice providers, the cost-effectiveness of the trainer of trainers model is increased in two ways. First, the participating LEAs will be substantially more self-sufficient in terms of the provision of inservice education. Second, the quality of inservice will be improved in that needs-based, district-specific inservice education will have been designed and delivered. Thus, when the long-term impact is considered in terms of the initial cost of training and the benefits to be realized by the LEA and individual educators, the trainer of trainers of trainers model represents a significant cost-effectiveness advancement.

Third, the process training materials developed and field-tested will be useful beyond the life of the project. These materials will be available to individuals who wish to train inservice providers, thus extending the impact of the project.

## Resources Needed for Replication

The resources needed to replicate the project design are relatively minimal and can be categorized into three areas: (a) curriculum development training program and materials (process), (b) content materials (adopted, adapted and/or developed), and (c) personnel time.

Curriculum development training program. The materials necessary to conduct inservice curriculum development training are not readily available; many of those that exist are not widely publicized. Most of the materials that are available regarding curriculum development are aimed toward those who are studying to be professional curriculum specialists. Although the information is useful and can apply to development of inservice programs, it is more complex than teachers need. Most of the material available on inservice program development and delivery focuses on logistics (e.g., have a comfortable setting, bring along spare lightbulbs for the projector) or provides detailed information for delivering a specific inservice program (one exception is Training Activities for Preparing Personnel to Design and Implement Workshops, a manual prepared by the Midwest Regional Resource Center).

These too are useful, but teachers preparing to take on the additional role of inservice providers need something else: They need written material that concisely tells them how to design, develop, and deliver inservice programs. Therefore, we developed our own process training materials. We prepared a resource notebook for individuals representative of our training audience. Our process training materials (described below) address generic curriculum development topics as well as topics and examples specifically related to career/vocational education for handicapped students. We have since discovered a few other similar resource notebooks. Helping Teachers Become Inservice Facilitators, edited by M. A. Wilson, and P.L. 94-142: The Challenge of the 1980's, by K. Turley, S. Booth, and K. Strichter are two such notebooks. Whether potential adopters choose to use our process materials, other available materials, or decide to develop their own, an essential resource for replication of the approach we have described is a process training program and materials. We recommend that adopters review the available resources thoroughly. Adopters will want to use materials that suit their philosophy and time frame. They will probably choose one as a major resource and supplement it with sections from others. All the resources we have mentioned, including our own, are suitable for such adaptation.

Content materials. The next resource needed to replicate this type of training is appropriate content materials. These materials are much more readily available to potential adopters. Many inservice training packages are currently available from commercial publishers and federal, state, and local projects. We have compiled a bibliography of such materials (described below). However, many publication lists do not provide sufficient information for a potential user to decide if the material is appropriate (for example, no reference regarding grade level of teachers to whom it is addressed). Our approach in inservice education, however, precludes the wholesale adoption of any pre-packaged inservice program since our philosophy requires locally-determined content. Our approach has been to collect these materials and to describe them by training objectives. In this way our participants could select from among these materials the specific learning activities needed to address identified training needs. Because of the expense involved in purchasing these materials, we recommend that potential adopters request preview copies to be used as a base of content from which team members may choose during the curriculum development process.

Personnel time. The final resource needed for replication is personnel time. This resource is perhaps most important and most difficult to provide. In our project, LEAs contributed this resource. Thus, LEAs appear to be in a position to make such contributions relative to staff development. Personnel time is needed in regard to several implementation activities. They are: (a) time for process training, (b) time to conduct development activities, e.g., needs assessment, and evaluation, (c) time to practice delivery, and (d) time for inservice delivery. In our project, process training was conducted outside of school hours. To compensate for this extra time teachers were paid, and graduate credit was provided. Potential adopters, however, should consider alternatives such as released time during school hours and within-district salary step credit. The fiscal resources needed to pay participants can be reduced by such arrangements, while at the same time maintaining the practice of providing incentives for participation.

An additional required personnel resource is someone to coordinate the whole project. This individual could be someone located at a central site, such as a university or teacher center, or someone associated with an LEA, such as an inservice coordinator. It is important, however, that someone be available to provide encouragement and technical assistance to the teachers who are becoming inservice providers.

The extent of involvement required from this person will depend on the initial self-confidence of the teachers and on the amount of released time they have to work on their inservice activities.

As an aid to potential adopters the following section describes project products that may be useful relative to both process and content training materials.

## PRODUCTS

Resources developed during the project period will be available to individuals who are replicating or adapting the project to their setting(s). Complete descriptions of the materials available are provided below. These materials will be available at the cost of reproduction.

### Materials Designed for Nationwide Dissemination

Two types of training materials will be available for dissemination at the conclusion of the project period. At that time, the resource book for teachers, Designing, Developing, and Delivering Inservice Education, will have been field-tested and revised at least once.

The resource book. The resource book for teachers is a loose-leaf notebook comprised of three sections. Part I contains modules on each phase of the inservice curriculum development process as well as a module on team building. The modules are designed especially for teachers who have been trained by the project staff and for those who are being trained by the original teams. In other words, it serves as a reference book for those who have learned the inservice curriculum development process as well as an instructional manual for those who are learning it. Each module begins with a list of the following:

1. Goals and objectives

2. Learning activities and resources
3. Checks on understanding
4. Implementation activities

Therefore, an interested teacher can use this section as an independent study guide. A set of suggested answers to the "checks on understanding" will be available for those who wish to instruct teachers in this process or for those who wish to use the resource book for individual study.

Part II of the resource book is a collection of chapters focusing on topics of interest to educators responsible for providing career/vocational education for special students. These are brief chapters, designed to provide teachers with essential information. Each chapter has a bibliography of more complete resources. The following topics are included:

1. Career education
2. Legislation
3. Resources
4. Attitude change
5. Instructional techniques
6. Vocational evaluation
7. Terminology
8. Special and vocational educators' roles

Part III of the resource book serves three purposes. It illustrates the inservice curriculum development process by taking the reader step-by-step through the development of an inservice program on "Safety Considerations for Handicapped Students in Vocational Classrooms." It also provides an inservice package that can be used by teachers who need an inservice program in this area. Finally, Part III is an example of inservice collaboration among local teachers and university staff. Although interest in safety for handicapped students was widespread among team members and administrators, an extensive search revealed no inservice materials related to the topic. Therefore, project staff compiled resources regarding safety for vocational classes and safety on the job, and samples of safety units in vocational education curriculum guides. From these resources and their knowledge of instructional techniques for handicapped students, the staff developed suggestions for an inservice program. The team that identified safety considerations as a top priority for an inservice program used some of the suggestions and added their own to develop their program. The inservice package provided in Part III includes suggestions from project staff and the team.

The inservice packages. Each team designed, developed, and delivered (the original teams have and the additional teams will) one or more inservice programs. From their outlines, scripts, and handouts, project staff members are compiling inservice packages that can be used, with appropriate adaptations, by other inservice providers. Each package will begin with a short description of the needs assessment process and the results that led to its development so that prospective users can decide if the package is likely to be applicable to their needs. The packages will include goals and objectives, directions for learning activities, masters for transparencies and handouts, and lists of further resources needed by providers. All inservice programs to be delivered have not yet been identified, but the packages will include the following, among others:

1. Tips for teaching special students in vocational classes
2. Methods of adapting instructional materials
3. Determining entry requirements for vocational classes and assessing students' eligibility

## Other Materials Collected and Produced By Project Staff

In the course of the project, several other materials have been collected and produced by project staff. Although the aim was to aid in project activities, many may be appropriate for national dissemination. As time permits, these products will be prepared for dissemination; otherwise they will be available on an individual basis to others who are seeking such materials and who understand the draft status of our materials. These products include the following:

1. Bibliography of inservice packages related to the career/vocational education of handicapped students
2. Bibliographies of resources regarding a number of topics relevant to this project (e.g., inservice education, curriculum development, needs assessment, career education for handicapped students)
3. Collections of notes and reference materials regarding various phases of inservice curriculum development and related topics (e.g., adult learning, evaluation)

## Related Staff Publications and Presentations

The following articles, chapters, and presentations have been prepared by project staff. Others will be available by the close of the project period.

Bolland, K. A., Skrtic, T. M., and Clark, F. L. Teaching teachers to teach teachers: The first phase of a new approach to inservice education. Paper presented at the Annual Meeting of the American Education Research Association, Los Angeles, April 14, 1981.

Skrtic, T. M., Clark, F. L., and Bolland, K. A. Safety in the vocational classroom: A need identified and addressed by teachers. Pointer, in press.

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## RECOMMENDATIONS AND FUTURE DIRECTIONS

The mission of those who respond to the regular education inservice initiative is two-fold. First, our primary task is to provide comprehensive inservice education relative to the implementation of PL 94-142. Due to the state-of-the-art in inservice education, however, accomplishing this primary objective is impossible without diverting significant attention to improving inservice education practices. We do not have the luxury of addressing each task separately; the former is inextricably related to the latter. Decreasing federal dollars have forced inservice providers to be creative in addressing cost factors. As a result, the trainer of trainers model described here has emerged as accepted practice not only for fiscal reasons, but also because it addresses the best practices concerns of inservice providers. Specifically, it involves inservice participants as central contributors to the design, development, and delivery of their own inservice education. Providing educators with the skills to take charge of their own professional development is cost effective, meets the best practices guidelines, and ensures that need will be met beyond project funding.

We would like to make a distinction regarding the trainer of trainers model, however. There are two types of trainer of trainers models in use. The first trains trainers to deliver content relative to PL 94-142. Participants in these projects are inserviced and then provided with instructional packages which they subsequently deliver to their colleagues. The second approach involves training initial participants to be inservice providers. That is, they are trained in the process of inservice education. These individuals then apply their skills in the development of inservice education programs for their colleagues. Neither approach is pure, however. Both approaches include aspects of the other. That is, persons trained under the content model are usually given some training relative to inservice delivery, and persons trained under the process model typically are provided with directly deliverable or pre-packaged content.

Although the content approach is common as well as cost-effective in terms of delivery, we feel that it does not totally address the guidelines for best practices in inservice education. It does not provide a level of participant involvement crucial to overall effectiveness and acceptance. It continues to approach the problem as if content alone were the answer. Conversely, the process approach more closely meets best practices guidelines as well as creating human and procedural resources for ongoing training. However, it can present problems that seriously limit the amount of content transmitted.

In this project we further refined the trainer of trainers model by extending it to incorporate training trainers of trainers. The cost-effectiveness advantages of the trainer of trainers model may be realized under the content approach. However, we feel that full advantage of the model under the process approach will be realized if it is not limited to the trainer of trainers ripple effect. That is, if the original teams of trainers were taught to train others in the process domain, they would then have the skills to train others, like themselves, to be inservice providers. Under this approach, the multiplier effect would indeed obtain. LEAs would be prepared to be increasingly independent with respect to inservice education design and delivery. They would not only have staff members capable of designing inservice programs and delivering content to their peers, but would also have staff members who could train their peers to be inservice providers like themselves. We believe this approach will begin to prepare LEAs to become self-sufficient inservice providers.

The model described here was implemented as a process model in public school settings. However, it was designed as a collaborative effort that can be generalized to other settings and contents. For example, although the core staff of this project were university-based, state department personnel could serve as the initial trainers for teachers and replicate this project throughout a state or a region. Administrators in a large school district could use this approach to train teams of teachers from individual buildings to develop and deliver building-based inservice education. The philosophy of this project clearly is consistent with that of teacher centers, and this model could serve as the basis of their program of teachers helping teachers. In addition, it is possible that advocacy groups, with the help of teachers, could use this approach to design training to meet their needs.

Through implementation of this project, we learned many lessons and subsequently formulated a number of recommendations that may help others implement inservice programs more efficiently and effectively. These recommendations are detailed in the following section.

## Recommendations for Inservice Providers

1. Training in the inservice process should be recognized as meeting best inservice practices guidelines and as creating human resources at the LEA level. Training teachers in the inservice process ensures not only their involvement in their own professional development but also the delivery of needs-based inservice programs. It ensures the development of inservice programs based on accepted curriculum development procedures making identification of needs, specification and validation of objectives, design and delivery of multiple learning experiences, and evaluation integral components of

the program. Knowledge and skills related to the inservice curriculum development process are generalized to other situations in relation to the classroom, training, and curriculum development. Teachers trained in this process remain in their districts as a valuable resource not only because of the knowledge and skills they have acquired and which they may continue to use, but also because of the intangible contributions made by their continued growth, enthusiasm, and involvement. They will be valued resources not only as active participants in inservice and curriculum development efforts, but also as knowledgeable consumers of future inservice programs.

2. Process training should be accompanied by content training. Several reasons exist for this recommendation. First, many experienced teachers cannot be expected to provide all the necessary content for inservice programs. Although they may know the content, translating it into training content for the inservice program appears to be very difficult for most teachers. Second, training in content that the trainees can use to make improvements in their own classrooms increases their confidence in their own knowledge and capabilities to train their peers. Training in both content and process will positively affect their self-concepts as trainers of their peers. Third, it is difficult to convince trainees of the value of process training independent of content training. Fourth, it is difficult to convince administrators of the value of process training. They prefer direct, quick training delivered by project staff. Providing content training would alleviate much of their concern.

3. When selecting teachers to serve on inservice teams, choose teachers who: (a) volunteer, (b) are recognized peer leaders, and (c) exhibit above average teaching skills. Because process training is once removed from what teachers expect, they must fully understand the scope of inservice curriculum development and required level of involvement and voluntarily make a commitment to participate. Teachers who are recognized by their peers for their skill in teaching will be more effective in reaching these peers in inservice sessions than those who are not recognized as leaders. An inservice provider whom the audience of teachers recognizes as a leader and to whom they respond favorably will be able to concentrate on matters other than gaining audience attention and acceptance in inservice programs.

4. More process training materials should be developed and field-tested. Although some materials designed to train teachers in the inservice development process are available, they are only initial attempts to convey the process to others. Obviously, a better understanding of the process and its components as well as its effect on trainees (in terms of altered professional status among other effects) is needed.

5. Training teachers to be inservice providers is a developmental process and requires attention not only to the teachers' knowledge and skills but also to their confidence as trainers of their peers. Teachers' self-esteem plays a critical role in the process of training them to be inservice providers. We, as their trainers, must recognize that although they may have a great deal of confidence in their abilities as teachers of children, they are accepting a new set of responsibilities and may have little confidence in their abilities as trainers of their peers. Attention constantly must be given to their feelings of self-esteem by both their trainers and their administrators. Through the training process, they will gain confidence; however, once removed from the training site and back in their districts, they may be

perceived differently by their peers and require support and encouragement once more to assume this new role. They no longer are simply classroom teachers; they are classroom teachers with skills to help other teachers. Acceptance of this status change is critical to their ability to fulfill their new role.

6. Educators must realize that institutionalization of staff development is a complex process requiring cooperative efforts over a long period of time. We remain committed to the idea that the institutionalization of teacher-planned and implemented inservice programs is a worthwhile goal; however, it will not necessarily occur after one successful program. Achievement of this goal requires the cooperative efforts of teachers and administrators as well as institutions of higher education, state education agencies, and professional organizations. Administrators must recognize the need for continual growth and development of their staff members, and teachers must recognize their own needs for growth and development. However, mere recognition of the need for these growth activities is not enough. Administrators must be willing to commit resources to staff development and inservice activities, and they must provide encouragement and support for teacher involvement. Teachers must be willing to assume an active role in and accept responsibility for their own growth. Some may choose to serve as inservice developers for their peers, whereas others must become, at least, more willing participants. Representatives from the SEA, IHEs, and POs can serve extremely valuable supporting roles in training inservice developers and delivering inservice for specific district objectives. Total institutionalization of an ongoing staff development program will not occur in a single year and may not be visible at the end of three years. However, training teachers to be inservice developers ensures that one resource for institutionalizing inservice does exist in a district. This resource coupled with strong administrative and teacher support could, over time, result in the realization of the goal of ongoing inservice education planned and delivered by teachers.

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# INSERVICE TRAINING IN DELIVERING COMPREHENSIVE VOCATIONAL AND CAREER EDUCATION SERVICES

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## PROJECT OVERVIEW

Local school systems have encountered difficulty in defining an appropriate vocational education for secondary handicapped students. Special education staff are being called upon to provide leadership to the decision making process with an inadequate understanding of vocational education. Likewise, vocational education staff are unprepared to participate in the multidisciplinary team process because they have an inadequate understanding of special education. Local systems need help now. The Tennessee project grew out of the realization that school districts needed inservice training to be able to structure appropriate vocational services for handicapped students. Without inservice preparation, needed change might occur over time, but meanwhile, many precious human lives might fall through the cracks--unprepared for an independent life.

The major goal of the project was to help leaders of multidisciplinary teams to become better informed about vocational education so that they could identify and help to create appropriate vocational programs for handicapped students. These teams are responsible for placing handicapped students and, consequently, have a great need for knowledge of vocational programs. In addition, the leaders of these teams are often in a position to advocate for improved services for handicapped students. For these reasons, the project targeted its training on educators who typically serve on multidisciplinary teams: school psychologists, counselors, and special education teachers.

Current preservice education for these professionals does not provide for a functional understanding of vocational education. Most preservice certification programs for special education teachers, counselors, and psychologists have no course requirements in vocational disciplines. In general, special education is focused on the elementary level with minimal recognition of the secondary level or on preparing handicapped students for a meaningful independent life including employment. Counselors continue to receive an education biased toward college-bound students. The educational preparation of psychologists is oriented toward in-school concerns with very little exposure to career education, vocational education, or employment. These three specialists play a major role in decisions pertaining to educational program placements.

Project staff and personnel from Tennessee's Division of Special Education and Division of Vocational Education cooperated in selecting local school systems to participate in the project. During each year of the project, twelve Tennessee school systems were invited to participate. Each system sent three participants. Special education supervisors and vocational directors of each selected system recommended a school psychologist, counselor, and special education teacher to participate.

The ultimate goal for project participants was to become better prepared to make decisions about placing handicapped students in appropriate vocational programs. The program was designed so that participants would gain knowledge of the following:

* Entry-level requirements for vocational programs (cognitive, affective, and psychomotor);
* The nature of tasks performed in different vocational shops;
* Materials, equipment, and tools used in vocational programs;
* Entry-level skills needed for employment; and
* Occupational opportunities for initial employment of handicapped students with the local community.

Major project activities were as follows:

* Intensive exposure to vocational education in a summer workshop;
* Visits to local industry and business to ascertain basic occupational entry-level skills desired for handicapped vocational students; and
* Synthesis of project experiences by developing a conceptual framework for their local system to use in providing an appropriate vocational education for handicapped students in the least restrictive environment.

## STRATEGIES

The progession of project activities is depicted in Figure 1. Specific project objectives were sequenced so that they could be attained by project participants within a year's time. Several strategies or plans for accomplishing project objectives proved to be effective. A majority of the strategies were developed during the conceptualization state prior to proposal submission. Additional strategies were implemented to enhance project operations as unanticipated needs or opportunities arose.

Figure 1. Project Activities

| | |
|---|---|
| Selection | School systems are selected to participate in the project.<br>In each system, vocational education directors and special education supervisors identify a school psychologist, counselor, and special education teacher to participate in the project. |
| Summer Workshop | Participant knowledge of vocational programs, attitudes toward vocational education of the handicapped, and self-perceived competence in counseling handicapped students about vocational education are assessed (pretests).<br>Participants are exposed to vocational programs.<br>Participant knowledge of vocational programs is assessed (posttests). |
| Academic Year | Vocational teacher attitudes toward vocational education of the handicapped are assessed (pretests).<br>Participants make visits to industry with vocational teachers.<br>Participants assist in placing handicapped students in cooperative work situations.<br>Participants assist in supervising the cooperative work experience of handicapped students.<br>Participants develop an occupational handbook to use when counseling handicapped students.<br>Participants develop a conceptual framework or planning model for providing vocational education for handicapped students. |
| Closure | Participant attitudes toward vocational education of the handicapped and self-perceived competence in counseling handicapped students about vocational education are assessed (posttests).<br>Vocational teacher attitudes toward vocational education of the handicapped are assessed (posttests). |

## Selection

Selection strategies that were especially successful included:

- Soliciting state department input (Division of Vocational Education and Division of Special Education) as to which school systems should be selected to participate in the project;
- Utilizing local vocational education directors and special education supervisors of selected systems to recommend participants to serve in the project; and
- Notifying participants of their selection several months prior to the project workshop so time conflicts could be minimized.

The state department was involved in the process of selecting school systems in order to improve rapport between university educators and state department personnel. Local district commitment to project concepts was crucial to the effectiveness of the project. Involving local administrators in the project from the beginning was important in establishing this commitment. Participants knew that their administrators had approved the project and had chosen them to represent the school system.

## Summer Workshop

Project activities were initiated in an intensive summer workshop. Objectives to be attained during the summer workshop included:

1. To better understand vocational education programs commonly offered at the secondary level;
2. To broaden competencies needed in counseling handicapped students about vocational education;
3. To improve attitudes toward the role of vocational education;
4. To have hands-on experience in vocational program areas; and
5. To increase understanding of vocational program entry-level requirements and desired exit or mastery skills.

The workshop site was selected so that participants could have a "working vacation." Conducting the workshop away from the participants' homes helped mold project identification and commitment through structured and informal experiences in a new environment. The workshop was held at a vocational school nestled at the foothills of the Great Smoky Mountains, and participants were lodged at a nearby motel. Workshop sessions were compressed into six eight-hour days so that participants could have free time in the evenings to interact and relax.

In the one-week workshop, participants were introduced to vocational programs commonly offered at the secondary level. The presentations were given by vocational teachers in vocational shop facilities. Vocational programs covered in the workshop included: agriculture, auto body, auto mechanics, building trades, child care, commercial foods, cosmetology, drafting, electronics, health occupations, horticulture, metals, vocational office education, and welding. A special session dealing with pre-occupational training was also provided. Information was shared concerning program entry-level requirements and desired exit-level skills. Participants gained insight into the nature of tasks performed within a program by "walking through" a sample instructional unit and making a basic project. They discussed placement considerations essential to a student's being able to function and succeed in each program.

At the conclusion of each program presentation, participants completed a sheet (see Exhibit 1) highlighting criteria for placing handicapped students

Exhibit 1

Vocational Education Placement Consideration Sheet

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Program ______________________________

Program Component ______________________________

1. The relationship of success in the above named program component and normal functioning in the following areas:

| Areas | High | Moderate | Low | Unrelated |
|---|---|---|---|---|
| 1. Eye-hand coordination | | | | |
| 2. Eye-hand-arm and/or leg coordination | | | | |
| 3. Visual perception (i.e. Discriminate forms) | | | | |
| 4. Visual acuity | | | | |
| 5. Auditory acuity | | | | |
| 6. Ambulation | | | | |
| 7. Verbal expression | | | | |
| 8. Written expression | | | | |
| 9. Interpersonal | | | | |
| 10. Strength | | | | |

2. Level of abstraction required of student:

________________________________________

Concrete Abstract

3. Required lifting by student:

0# ____
1#-10# ____
11#-25# ____
26#-50# ____
54#-100# ____
101#-plus ____

4. Hazardousness of program:

Extreme ____
Somewhat ____
Neglible ____

5. Student minimum or maximum:

Height: Yes ____ No ____
Weight: Yes ____ No ____

6. Estimated minimum levels of functioning needed for success in the program:

Reading grade placement ____

Mathematics grade placement ____

---

in vocational education programs. Participants engaged in participatory process activities at the end of each workshop day. In these activities, they were called upon to address four issues pertaining to vocational education for the handicapped. As members of work groups (other than their school system team), participants solved problems and arrived at a consensus concerning workable strategies to be implemented at the local level. The four issues addressed by the participants were: (a) elimination of barriers which inhibit effective interagency cooperation, (b) development of vocational counseling handbooks for handicapped students, (c) acquisition of current information about job opportunities for handicapped vocational students, and (d) development of a planning model for vocational education handicapped students.

Participants were reimbursed for expenses. Another plus for the summer workshop was that participants could obtain collegiate academic credit for their work if they desired. College credit was made available also for project-related work completed in the academic year. Project participants were required to pay their own tuition costs.

Summer workshop endeavors served as a prelude to preparing participants to facilitate both immediate and long-range improvements for handicapped students at the local level. In summary, workshop strategies that worked well were:

- Having the workshop in the summer and away from the local school systems;

- Having practitioners (i.e., vocational teachers) make vocational program area presentations;

- Having participants determine specific and general criteria for placing handicapped students in the various vocational program areas;

- Providing participatory process activities to complement information obtained in vocational program area presentations;

- Making collegiate academic credit available for the summer workshop (a maximum of nine quarter credit hours within the project year); and

- Reimbursing participants for expenses.

## Academic-Year Activities

Objectives to be attained by participants in their local schools within the academic year were as follows:

1. To make one visit per week to industry with local vocational instructors;

2. To identify the basic skills required for employment in the local community;

3. To ascertain the number of jobs available by industry for handicapped students within the community;

4. To meet with local personnel officers in establishing a vehicle for placing handicapped students from vocational education;

5. To identify contact persons who were willing to counsel handicapped students about employment opportunities in industry;

6. To identify personnel from industry who would serve on a steering committee in establishing an advisory committee for handicapped students in vocational education;

7. To assist in the placement of one handicapped student per academic quarter; and

8. To assist in supervising the cooperative work experience of the vocational handicapped students who were placed.

In the academic year, participants visited local businesses and industries representative of the vocational programs offered in the school system to identify entry-level job opportunities available to handicapped students. Participants were encouraged to have vocational teachers accompany them on the visits whenever possible. In some instances, local vocational teachers were able to assist participants in contacting employers about industry visits.

Joint visits enabled participants to learn more about vocational education programs available in their local systems and the handicapped students involved in the various programs. The visits served as a vehicle for improving communication between project participants and vocational teachers. Improved communication, in turn, served as a catalyst for participants and vocational teachers to utilize one another as valuable resources in providing an appropriate education for handicapped students.

Information about jobs and basic skills requirements gathered on the visits were recorded on specially prepared occupational information sheets (see Exhibit 2). Employers willing to counsel handicapped students about

Exhibit 2

## Occupational Information Sheet

Name of Business Visited ______________________ Date ______________

Type of Company ______________________________________________

Location _______________________________________________________

Job Title _________________________ Starting Salary ______________

Person Interviewed ____________________ Interviewers ___________

Education Required ____________________________________________

Training and Experience Required (If Any) ______________________

Additional Training Required After Employment: On-the-Job ___________

Additional Voc.-Tech. Tr. _____ Co. Sponsored Tr. Prog. ___________

V. E. Audlt Programs _____ Other ____________________

General Job Duties: ___________________________________________

_______________________________________________________________

_______________________________________________________________

_______________________________________________________________

Specific Job Skills and/or Special Abilities (Aptitudes) ________________

_______________________________________________________________

_______________________________________________________________

_______________________________________________________________

Job Outlook: Stable_____ Growth Area______ Seasonal_____ Declining______

Career Possibilities in This Job: Present___________ Future ______________

_________________________________________________________________________

Suggested Contact Person If Inquiring About Employment For the Handicapped

_____________________________________________ Phone No.________________

employment opportunities were identified. In addition, participants identified employers who were willing to serve on an advisory committee for vocational education of the handicapped. Compilation of business and industry visitation information, at the end of the academic year, constituted a local occupational outlook handbook for handicapped vocational students. The handbook could be used by multidisciplinary team members as a reference in counseling handicapped students about local employment opportunities, entry-level skill requirements, and related vocational training.

Participants were encouraged to assist in the placement and supervision of handicapped students in cooperative work situations. Involvement in student placement assisted participants in understanding the link which exists between vocational education and the world of work. The value of including handicapped students in vocational programs was reinforced. Participant placement activities were not intended to supplant or interfere with those already being conducted at the local level. Participants were expected to assist and work in conjunction with placement coordinators or vocational teachers who normally were responsible for placement of students in work situations.

Regional meetings and involvement by project staff in inservice training were among the supplemental activities added to the project. School system administrators were invited to the regional meetings so they could contrast and compare project progress in their system with that of other participating systems. The regional meetings provided excellent forums for discussion of emerging issues and sharing of workable vocational education delivery strategies. Local school system progress in attaining project objectives was monitored by project staff during visits to the systems. Local visitation by project staff enabled the partcipants to receive assistance with unique local problems or obstacles. Visits also provided time for encouragement in attaining the project objectives.

In summary, project strategies that were particularly effective in academic year operations included:

- Encouraging participants to have a vocational teacher accompany them when visiting businesses and industries;
- Developing a handbook on local employment opportunities;
- Presenting project concepts at joint special education/vocational education inservice sessions held in systems that participated in the project;

* Conducting regional meetings during the academic year so participant teams could problem solve together concerning attainment of project objectives;

* Inviting administrators from participating systems (vocational education directors and special education supervisors) to attend project regional meetings;

* Providing participating school systems with technical assistance via project staff visiting participants in their respective systems;

* Encouraging participants to assist in the placement of handicapped vocational students in work situations; and

* Reimbursing participants for expenses.

## Closure

Terminal or closure project objectives for participants were:

1. To become familiar with vocational planning models for handicapped students,
2. To develop a planning model for vocational education of handicapped students in the local system, and
3. To improve working relationships with other educators in providing vocational education for handicapped students.

Models gleaned from the professional literature were shared with participants during on-site visits. Local participant teams developed a planning model which reflected the vocational education delivery system currently in effect in their school system. This process helped them understand better where their systems were in serving handicapped students. They were then encouraged to include any revisions needed to provide appropriate educational opportunities to handicapped students. This step helped them to understand where their systems "should" and "could" be.

Completion of project activities and the subsequent attainment of project objectives were facilitated by the project director or associate director visiting participants in their school systems. Participants were visited in their local school systems six times during the year. Their progress was reviewed, and technical assistance was provided as needed. Emerging problems were discussed, and alternative solutions were offered for consideration. Technical assistance also involved the dissemination and review of current professional literature. A meeting was held at the end of the project year so participants could share project outcomes, strengths, and weaknesses.

In summary, effective closure strategies included:

* Having participant teams develop planning models which incorporated futuristic improvements and

- Enabling participant teams to share project products that they had developed in their respective systems at the end of the project meeting.

## PROBLEMS AND SOLUTIONS

As with any endeavor, problems emerged in project operations despite methodical conceptualization and implementation. It was impossible to anticipate all intervening variables. The discrepancy evaluation approach used with the project did lend itself, however, to the unearthing of operational problems as they occurred. The majority of problems could be classified as attitude or time related.

### Attitude Problems

Attitudes of local education personnel had a direct influence on involvement in project activities. Local school system administrators were contacted several months prior to the beginning of the project so that ample time would be available for firming up local commitment to concepts embodied by the project and so that local school system participants could be recruited. At the outset, project staff relied on administrators' agreement to have their systems involved in the project as indicative of their commitment to the improvement of vocational education for the handicapped. Agreement and commitment proved to be less than synonymous early in the project.

Local administrators who had positive attitudes toward vocational education for the handicapped actively recruited educators to participate in the project and facilitated attainment of project objectives within the local school system. Marginal or half-hearted administrative support generally resulted in (a) a school system not having a full participant team--only one or two participants instead of a school psychologist, special education teacher, and a counselor or (b) participants not getting the encouragement they needed to accomplish project objectives locally.

Strategies for resolving or counteracting lack of administrative support included working with administrators in the local school system while visiting project participants. Administrators were also invited to attend project regional meetings. Incomplete participant teams were encouraged to recruit "tack-on-participants," fellow educators from their system to assist with project activities.

### Time Problems

Participants from the local systems were selected primarily because they were already active in school concerns and were thought to be influential change agents. In some instances, local work schedules and time constraints prohibited participants from making as many visits to businesses as they would have liked. Most participants were unable to secure released time from work to facilitate more visits. Vocational teachers in some systems faced a similar problem of not having adequate released time to make visits with project participants. Four methods were used to minimize time constraints. First, modest honorariums were given to project participants as an incentive for their making visits to business and industry. Second, a few systems reduced the number of visits that were made to businesses and industries. Third, participants were encouraged to supplement their visits with phone survey information if they were unable to make the recommended number of visits. Three systems did conduct supplementary phone surveys for employment information pertaining to handicapped vocational students. Fourth, participants were asked to obtain employment information from local vocational program advisory council members if they were unable to make business visits with vocational teachers. Two systems relied heavily upon advisory council input to compile their local counseling handbook for handicapped vocational education students.

## EVALUATION

The evaluation design for the project included both formative and summative evaluations. Areas of data collection important in measuring project objectives were collection of (a) process or transaction data, (b) baseline or antecedent data, and (c) program or outcome data. Continuous internal evaluation was conducted by project staff and participants. Project operations were evaluated intermittently by an evaluator external to the project and the University of Tennessee. The outside evaluator did assist with suggestions and recommendations to be considered for project improvement.

Process data were needed to provide participants and project staff with immediate feedback concerning project operations. Process data were obtained from participants on a daily basis throughout the summer workshop. Participant progress was monitored by project staff while periodically visiting in the local school systems. Utilizing process data, modifications were made in project operations so staff and participants could stay on target in attaining objectives. A final project written evaluation was completed by participants at the year-end project meeting.

Baseline data were necessary to establish benchmarks from which to observe participant growth as a result of project involvement. Baseline or pretest data were obtained concerning participants' (a) knowledge of vocational education program areas, (b) attitudes toward involvement of handicapped students in vocational programs, and (c) self-perceived competence to counsel handicapped students about vocational education alternatives. Samples of items from the knowledge, attitude, and self-perceived competence instruments are presented in Exhibits 3, 4, and 5 respectively. Reliability estimates for the attitude and self-perceived competence instruments were .868 and .938 respectively. Cronbach Alpha was the reliability measure used.

Exhibit 3

Sample Items from the Knowledge Instrument

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This instrument has been designed to sample your basic understanding of vocational education programs commonly offered at the secondary level. THIS IS NOT A TEST.

Please use the space provided to the right of each item when indicating the response you consider to be more appropriate.

## Auto Body

1. In auto body an employee may be poisoned by

    a. asbestos
    b. lead
    c. fiber glass
    d. polymers
    e. all of the above

2. What is the most dangerous piece of equipment in the auto body shop?

    a. metal grinder
    b. drill press
    c. air compressor
    d. hammer
    e. gas welder

## Electronics

3. Which of the following physical conditions would prohibit a person from being an electronics technician?

    a. deaf
    b. no arms
    c. no visual depth perception
    d. color blind
    e. all of the above

4. In what country(ies) is 120 volts AC used in private homes?

    a. USA
    b. France
    c. Germany
    d. England
    e. all of the above

## Exhibit 4

## Sample Items from Attitudes towards Vocational Education

| | Attitudinal Statements | STRONGLY DISAGREE | | DISAGREE | | AGREE | | STRONGLY AGREE | |
|---|---|---|---|---|---|---|---|---|---|
| 1. | It is the responsibility of public education to prepare students to enter the world of work as well as to pursue continued education | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2. | Vocational education can help students make sound career and job choices | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 3. | Vocational education benefits students in finding meaningful work | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 4. | Public education experiences should provide students with career awareness opportunities | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 5. | Pubic education experiences should provide students with career exploration opportunities | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 6. | It is the responsibility of public education to ascertain students' vocational | | | | | | | | |
| | a. needs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | b. interests | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | c. abilities | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 7. | It is the responsibility of public education to determine local employment | | | | | | | | |
| | a. needs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | b. opportunities | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

|  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
| 8. | It is the responsibility of public education to teach entry-level skills for specific occupations | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9. | Entry-level skills needed for successful participation in vocational programs should be determined | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

Exhibit 5

### Sample Items from
### Self-Perceived Competencies--Providing Vocational Counsel for Secondary Handicapped Students

| Competency | UNABLE TO PERFORM | BELOW ABILITY | AVERAGE ABILITY | ABOVE AVERAGE ABILITY | SUPERIOR ABILITY |
|---|---|---|---|---|---|
| 1. Identify competencies needed for a handicapped student to: |  |  |  |  |  |
| a. enter a vocational program | 1 | 2 | 3 | 4 | 5 |
| b. obtain initial employment | 1 | 2 | 3 | 4 | 5 |
| c. advance in an occupation | 1 | 2 | 3 | 4 | 5 |
| 2. Identify handicapped students | 1 | 2 | 3 | 4 | 5 |
| 3. Assess a secondary handicapped student's |  |  |  |  |  |
| a. vocational needs | 1 | 2 | 3 | 4 | 5 |
| b. vocational interests | 1 | 2 | 3 | 4 | 5 |
| c. ability to succeed in a vocational program | 1 | 2 | 3 | 4 | 5 |
| 4. Identify local occupational opportunities for secondary handicapped students | 1 | 2 | 3 | 4 | 5 |
| 5. Develop an IEP which provides for vocational education | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 6. Coordinate the implementation of an IEP which provides for vocational education | 1 | 2 | 3 | 4 | 5 |
| 7. Evaluate an IEP which provides for vocational education | 1 | 2 | 3 | 4 | 5 |
| 8. Assist receiving vocational teachers in | | | | | |
| a. developing materials | 1 | 2 | 3 | 4 | 5 |
| b. modifying teaching techniques | 1 | 2 | 3 | 4 | 5 |
| 9. Administer teacher inservice training pertaining to vocationally educating handicapped students. | 1 | 2 | 3 | 4 | 5 |

Participants completed pretests on all three measures at the beginning of the summer workshop. In addition, the attitude measure was given to vocational teachers at the beginning of the school year. Vocational teachers' attitudes were measured so that changes resulting from increased involvement with project participants could be documented.

Participants completed a posttest on the knowledge instrument at the end of the summer workshop. Participants and vocational teachers completed posttests on the attitude and self-perceived competence measures at the end of the school year.

Evaluation data revealed that the project was effective in four major areas. First, participants increased their knowledge of vocational education during the workshop. Scores on the cognitive instrument for 1979-80 participants increased an average of 28 percent. Individual increases ranged from 7 percent to 47 percent. The data for 1980-81 participants indicated a mean increase of 28 percent with individual score increases ranging from 7 percent to 51 percent.

Second, participant attitudes and self-perceived competence improved during the year. Comparison of mean responses on the pretest and posttest revealed a positive shift in 1979-80 participants' degree of agreement with all but one of the 56 statements in the attitudinal instrument. For 1980-81 project participants, a positive shift occurred on 29 of the attitudinal statements. On the measure of self-perceived competence, 1979-80 mean responses showed a positive shift in self-perceived competence on all 22 tasks. Similar results were found for participants involved in the project during 1980-81.

Third, vocational education teacher attitudes toward handicapped students improved during the year. Comparison of mean pretest and posttest scores of vocational teachers from the 1979-80 participating school systems indicated a positive shift in degree of agreement with all 56 statements in the attitudinal instrument. Comparison of scores for vocational teachers from the 1980-81 participating school systems revealed a positive shift in agreement for 54 of the 56 attitudinal statements.

Fourth, participating school systems developed planning models and employment handbooks for use in counseling handicapped students. The planning models are being used in the school systems that participated in the project. The models have been used effectively in multidisciplinary team meetings and in public presentations concerning local educational alternatives and resources. Cumulatively, the 1979-80 participants made 516 visits to business and industry to secure information for their systems' employment handbooks. A total of 255 business and industry visits were made by the 1980-81 project participants.

In the two years of project operation, participants actively assisted in the placement and supervision of 128 handicapped students in work situations at the local level: 47 students were placed in 1979-80 and 81 were placed in 1980-81.

Other concomitant benefits have come about as a result of involvement in project activities. Five school systems have held joint inservice sessions in which special education and vocational education teachers have had the opportunity to share expertise. Another system has a joint inservice session planned so that counselors and special education teachers can tour the vocational education facilities and discuss handicapped student placement considerations with vocational teachers. Several systems are developing preoccupational programs to be implemented in the near future.

## RESOURCES

Federal project funds have covered the expenses of the participants with only a few exceptions. Participants who desired to earn graduate credit had to pay their own tuition. Local educational systems were requested to provide some released time for local visits to industry. First-year participants had to cover the transportation costs incurred while making the industry visits and coordination calls. Only a few systems reimbursed participants from local budgets for transportation expenses. A modest honorarium was included the second year to help defray the above transportation costs. Some of the local school systems conducted inservice for their special education and vocational education personnel. For many systems, this was their first jointly planned and conducted inservice session. Project staff did assist in several instances by personally visiting and presenting during the meetings. No cost calculations have been attempted as to the local costs for combined inservice programs. The local systems have further contributed by allowing their staff to travel to regional meetings.

Three participating systems did conduct a complete industry survey to ascertain the number of jobs available and the entry-level skills required. These systems now have available for counseling purposes complete, up-to-date industry manuals. The majority of the systems made the required number of industry visits to provide information for counseling purposes.

Five of the products developed for use in the Inservice for Delivering Comprehensive Vocational and Career Education Services Project can be adapted for use by other local school systems. The five products are:

- Vocational Education Placement Consideration Sheet;
- Occupational Information Sheet;
- Vocational Education Attitudinal Instrument;
- Self-Perceived Competencies--Providing Vocational Counsel for Secondary Handicapped Students; and
- Vocational/Career Education for the Handicapped Grant Project Final Program Evaluation.

These materials can be obtained at cost by writing to the author (see address at end of article).

Successful coordination of project operations is dependent upon specific human resources or expertise. In any project of this type, the director and associate director should have comprehensive backgrounds in vocational education with some concentration in the special needs area. Both should be experienced in working with diverse groups. Project staff should be skilled in problem anticipation, identification, and resolution. Experience working with educators in off-campus inservice is also beneficial.

## RECOMMENDATIONS AND CONCLUSIONS

The methods used by this project could be adopted either on a statewide basis or by local school districts. Some of the more enterprising participants in the project did return to their local systems to design and conduct local inservice programs following their workshop experiences. This section will discuss some of the considerations to keep in mind when adapting this project to differing state and local conditions.

### Visits to Industry

The local visits to industry could stand alone as a local program. This component of the program provides for up-to-date relevant data that are not readily available from other sources. A comprehensive approach is made possible by bringing several disciplines together to develop a complete job skills manual for counseling purposes. Not only does this provide for a realistic vocational education objective, it also allows each vocational instructor to plan job-entry instruction for special students.

### Cooperative Placement and Coordination

Specialists from special education, counseling, and psychology stand to gain much valuable information by assisting in the placement and coordination of handicapped students in cooperative part-time jobs. Special students can gain greatly from work experience, and the reality of meeting employment standards and expectations can best be accomplished by unsubsidized private sector employment. The specialists learn to see beyond the four walls of the campus to understand and appreciate their handicapped students' encounters with employment. This component of the project would greatly assist these specialists in getting beyond the "kiddie" concept to helping structure educational programs to enable the handicapped to prepare for and enjoy a meaningful independent living. This segment should also enable the multidisciplinary team decision leaders to see beyond basic academic skills to career education and vocational education.

### Vocational Teachers as Presenters

Local vocational education staff vary greatly in several critical ways. In selecting a workshop site, the competence of the local vocational teachers is of primary importance. Not all local teachers would be able to communicate their particular program to educational specialists in the most desirable manner. In selecting a local system, select on the basis of their commitment to and competence in working with the handicapped. The staff should have a favorable reputation in working with the handicapped in their classrooms.

### Expenses

Most of the targeted participants have already invested heavily in time and money to earn certification and advanced degrees. It is important to reimburse the participants for the expenses incurred in training. Additional incentives, such as graduate credit, should also be considered.

### Communication

One of the side benefits to the participants is the informal communication network that emerges when local and regional problems are shared. Groundwork for networks can be established during the workshop when you bring together several systems. Participatory processes structured around anticipated barriers or problems provide for sharing opinions and possible solutions. When the participants return to their local systems to implement ideas and desired changes, they have the participatory processes for background. The local on-site visits provide for additional input from other local personnel. In addition, telephoning from one system to another can be relied upon for reassurance, comfort, or encouragement from one practitioner to another.

### Local Models

Local systems could adopt inservice programs over the period of several years and achieve similar results without having the above cost. However, the element of enabling participants to function in a new environment with new faces for an accelerated rate of change would be sacrificed. Local systems with good communications and interagency working relationships would experience success. Professional agreement on needed change by the local staff would be helpful in working toward desired changes.

## CONCLUSIONS

As a result of this project, secondary handicapped students are receiving a more appropriate vocational education. Our evaluative data indicate that participants feel more confident about their decisions pertaining to placing handicapped students into vocational education programs. Handicapped students are being placed into meaningful unsubsidized private sector employment. The various decision specialists are able to see beyond the four walls of the campus to better understand and plan for realistic attainable employment goals for their handicapped students. Better communication, coordination, and interdisciplinary cooperation are being developed by the participants within their local systems. Attitudes are changing in the desired direction. All of these factors are a direct result of participation in this project by decision leaders from multidisciplinary teams.

Preservice programs alone will not solve the educational needs of today's secondary handicapped students. The vast majority of the students will be subject to decisions by multidisciplinary team leaders already certified. These specialists need help now. We feel this inservice model will enable interested and dedicated professionals to begin implementing changes immediately. Edicts alone from state departments of education and local administrators will not have the same results. Orders to change will bring about compliance but not a dedicated commitment. Highly educated, intelligent people deserve a participatory process to enable them to identify with the issues involved. Through this training and the efforts of the participants in their local districts, many handicapped students are being given the chance for a more independent life.

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# TRAINING ADVISORY COUNCIL MEMBERS ABOUT COMPREHENSIVE VOCATIONAL EDUCATION FOR ALL HANDICAPPED INDIVIDUALS

JANE ANN RAZEGHI AND ANNEMARIE MULLANE

American Coalition of Citizens with Disabilities

## PROJECT OVERVIEW

This project is located at the American Coalition of Citizens with Disabilities, Inc. (ACCD) in Washington, D.C. It was funded in June of 1980, and the first year of a two-year funding cycle has just been completed.

During the past few years, the American Coalition of Citizens with Disabilities, an umbrella organization composed of over 95 major consumer (disabled) organizations and representing over seven million disabled individuals in this country, has been most active in the passage of federal legislation regarding handicapped issues and concerns. One such major concern has been the area of education, specifically, P.L. 94-142, P.L. 94-482, and Section 504 of the Rehabilitation Act. Because of ACCD's studies and findings regarding the tremendous unemployment and under-employment of disabled persons in this country, it has expressed active concern for the need to provide handicapped students with the opportunity for appropriate vocational education.

### The National Needs

Over one million disabled students in this country, particularly between the ages of 16 and 21 years, lack career and vocational skills needed to compete for jobs in their communities. Although vocational education is one of a number of viable work preparation options, recent data (Office of Civil Rights, 1980) clearly indicate that handicapped students have not been included in many of the occupational clusters in any significant numbers. The need for vocational training is reflected in the following statistics:

1. According to the U.S. Census Bureau, in 1976, 85 percent of handicapped people earned less than $7,000 per year, and 52 percent earned less than $2,000 per year.
2. Of more than 220 million people in the United States, 30 million are disabled in one way or another, yet only 4.1 million are employed.
3. In fiscal year 1978, only 2.1 percent of students in secondary vocational education programs were identified as handicapped. However, this represents an increase over the 1.7 percent of enrollment in fiscal year 1976.

4. The cost of dependency among unemployed disabled people in this country presently exceeds $114 billion per year, and is increasing rapidly (Bowe, 1980). This emphasizes the need for more effective training and education programs to enable disabled people to become taxpayers rather than tax users.

ACCD recently conducted a pilot study funded by the Office of Special Education regarding vocational education for handicapped students in one state. The findings of the study indicated that of the total handicapped population, ages 16-21 years, enrolled in some form of vocational education:

1. 61 percent were in special vocational education in separate classes designed for handicapped students;
2. 28 percent were enrolled in regular vocational education without support services; and
3. Only 10 percent were in regular vocational classes and were receiving support services.

It could be concluded that in this particular pilot study, an "either/or" situation existed. Handicapped students were either receiving vocational education separately or they were in regular vocational education without support services of any kind. The setting least utilized was the one in which the student was in vocational education with the provision of necessary support services. The appropriate use of support services for handicapped students in vocational education is one area in which ACCD believes there is a compelling need for development in most states.

## Project Goals and Objectives

The overall goal of ACCD's advisory training project is to conduct at least six state training conferences over a two year period for those persons who represent the interests of handicapped individuals on various advisory councils in each target state. During the first project year ACCD conducted four workshops, training a total of 84 individuals in Texas, Maryland, Illinois and the District of Columbia. Advisory councils for special education, vocational education, vocational rehabilitation, CETA state councils, CETA prime sponsors, consumers (disabled individuals), and parent organizations were the types of individuals that participated in the state training workshops.

During the first project year ACCD was successful in achieving the following project objectives:

1. Assisted four target states in identifying and assembling state and local advisory committee members to assist in planning and conducting a state training conference;
2. Planned, conducted, and evaluated four state training workshops relevant to each state's needs in implementing comprehensive vocational education for all handicapped students;

3. Assessed each target state's individual needs, resources, and vocational education programs which successfully include handicapped students;

4. Produced individual resource guides reflecting each state's resources and successful programs;

5. Produced and disseminated a draft handbook that served as the basis for training in the workshops;

6. Produced state workshop proceedings for Texas, Illinois, Maryland, and the District of Columbia;

7. Developed an Advisory Council Inservice Model;

8. Facilitated and established linkages and communications among advisory councils within each state and among other representatives of the key consumer and parent organizations included in the training workshops; and

9. Began providing follow-up and technical assistance to determine whether actions in the target states had been taken toward further implementation of vocational education for all handicapped students.

More important than making any changes in the legislation and regulations is to be aware of the importance of including input from appropriate and informed handicapped representatives or their designated advocates. Too often the needs of handicapped individuals are planned "for" rather than "with" appropriate disabled persons advocates. It would also be more effective if these individuals were kept up-to-date regarding the latest developments about:

* Vocational education for handicapped students;

* Recent laws and policies affecting vocational education for handicapped students;

* Linkages with other national, state, and local key policy-influencing organizations;

* Interagency cooperation and inter-intra-agency roles and responsibilities;

* Awareness of state and local programs which have been successful in including handicapped students in vocational education; and

* Awareness of national, state, and local resources and materials which can assist in implementing comprehensive vocational education for handicapped students.

Increased awareness of advisory and advocacy input at the national, state, and local levels on behalf of handicapped individuals in vocational education will eventually provide greater visibility for the capabilities of many disabled individuals. Once administrators, educators, parents, and members of the community at large believe that the efforts they make can be productive, that there are, in fact, career opportunities for even the most severely disabled adult, then they will be more willing to listen to the concerns of handicapped persons and their advocates. The point is that disabilities can be overcome to enable individuals to achieve their maximum capabilities within whatever the least restrictive environment may be for them.

## BACKGROUND ON ADVISORY COUNCILS

Recent legislation requires the establishment of a variety of state and local advisory committees some of which require a representative of handicapped concerns.

### Advisory Panels Mandated by P.L. 94-142

Section 121a.651 of the Education of All Handicapped Children Regulations (P.L. 94-142) requires each state to establish a state advisory panel on the education of handicapped individuals. It is to be appointed by the Governor and composed of persons involved in and concerned with the education of handicapped children. Its membership should include at least one representative of each of the following groups:

1. Handicapped individuals,
2. Teachers of handicapped students,
3. Parents of handicapped students,
4. State and local education officials, and
5. Special education program administrators.

The composition and the number of members may be expanded at the discretion of the state. The panel's functions are described in section 121a.652 as follows:

1. Advise the state education agency of handicapped student's unmet needs;
2. Publicly comment on the state annual program plan and the rules and regulations proposed by the state regarding the education of handicapped students and the procedures for distribution of funds; and
3. Assist the state in developing and reporting on evaluation that may assist the commissioner to perform his responsibilities.

### Advisory Councils Mandated by P.L. 94-482

The regulations to the Vocational Education Act mandate national, state, and local advisory councils in Section 104.91 - 104.112. The State Advisory Council must include one or more individuals who have special knowledge, experience, or qualifications with respect to the educational needs of physically or mentally handicapped individuals. For the state advisory councils, the term of membership is for three years.

The functions of the State Advisory Council include:

1. Advising the organizations responsible for administering policy matters on vocational education;
2. Identifying vocational and training needs and assessing the extent to which vocational education, special education, vocational rehabilitation, and other agencies represent a consistent, integrated, and coordinated approach to meeting these needs;
3. Conducting at least one public meeting each year, thus giving the public an opportunity to express views concerning the state's vocational education program;
4. Evaluating how well the programs, services, and activities carried out in the year met the program goals;
5. Reviewing the distribution of federal funds within the state submitted by the state according to the annual program plan and the accountability report; and
6. Recommending necessary changes in programs, services, and activities based on the results of its evaluation.

## Local Vocational Councils

According to P.L. 94-482, section 104.111, local advisory committees may be established for program areas, schools, the community, or the region in which the eligible recipient is located. Its members are composed of representatives of business, industry, and labor. Unfortunately, the regulations do not require representatives of either special education or handicapped individuals. This is unfortunate and is further reason for providing informational materials and training for the local councils regarding vocational education for handicapped students.

Local vocational advisory committees must advise vocational education administrators on current job needs and the relevance of programs being offered to meet these needs. They also frequently assist in placement of program completers.

## Implications

The advisory panels required by P.L. 94-142 and P.L. 94-482 have similar missions. Functions of the state advisory panels required by both acts include:

1. Advising the program administrators on the student's needs;

2. Advising on policies and programs being developed to meet the student's needs; and

3. Assisting in developing and reporting on evaluations conducted to determine the effectiveness of programs, services, and activities in meeting program goals.

Given the similarity of missions and the commonality of goals, the state advisory councils should coordinate their efforts to ensure total coverage of all educational programs for handicapped individuals (Halloran, Foley, Razeghi, Hull, 1978). Having handicapped persons on the state and local advisory councils should be seriously considered. Their participation gives the councils input and advice for meeting the needs of handicapped individuals.

Comprehensive Employment and Training Act (CETA) Final Regulations, April, 1979.

The recent CETA regulations require that each prime sponsor shall establish a planning council and that its members shall include representatives of handicapped individuals (p.2005, section 676.7). These same regulations also mandate State Employment and Training Councils which among their designated representatives must include "organizations representative of handicapped individuals: (p.20042, section 677.36).

## STRATEGIES

### Roles of Advisory Council Members

Probably one of the most important aspects of the role of disabled advisory council members or advocates will be to function as role models for both handicapped and nonhandicapped individuals on the committee, in the schools, and in the community. They can offer various resources, services, advice, and assistance, as well as play a major role as a liaison among the students, school, and the community. As liaisons, they can offer many functions in public relations such as:

* Developing and sponsoring a comprehensive community public relations program,

* Identifying and coordinating various community resources for the instructional program,

* Coordinating community needs, manpower supply and demand, and conducting follow-up surveys to collect relevant and supportive information for decision makers,

* Serving as a resource person in the classroom,

* Facilitating communication between career and vocational educators and other school personnel regarding the career needs of disabled persons, and

- Facilitating the development of individual programs for disabled students in career and vocational classes.

In addition to the above role and after receiving ACCD's training, members of state or local advisory councils can serve to bring about vocational education for handicapped students in a variety of ways which could include but are not limited to:

1. Encouraging their advisory group to focus some of its efforts on promoting vocational education for handicapped students;
2. Continuing to interact and share information with other advisory committees;
3. Writing letters to the appropriate boards, agencies, and councils voicing their concerns on vocational education for handicapped students;
4. Sponsoring training workshops and awareness days on vocational education for handicapped students for others on their advisory councils;
5. Including articles on vocational education for handicapped students in their newsletters;
6. Gathering information on successful vocational education programs for handicapped students, visiting the project sites, and writing articles about the programs to be included in their newsletters;
7. Reviewing the plans of state or local education agencies for special education and vocational education to determine whether they contain provisions for including handicapped students in vocational education;
8. Seeking interagency cooperation between the Departments of Vocational Education, Special Education, and Vocational Rehabilitation; and
9. Reviewing the IEP process to ensure that (a) vocational education is included at the secondary level and (b) that pre-vocational and career development activities are included where appropriate;
10. Reviewing the CETA training programs. (Do they offer support services? If so, what kind? How can they be improved? What are the entrance requirements? Are they flexible?); and
11. Advocating for change in entrance requirements that may presently exclude handicapped students from participating in vocational education.

Although each advisory council member can choose various roles as a result of ACCD's training, there are some roles and responsibilities that all advisory council members can share. Whether an individual represents a local, state, federal, consumer, or parent advisory council, all participants involved in ACCD's training sessions will want answers to the following questions:

- What is vocational education?
- Why is it so important for handicapped students?
- What are the laws that mandate vocational education?
- What is the policy of my state education agency in providing vocational education for handicapped students?
- What successful vocational education programs exist in my state for handicapped students?
- Is my advisory council aware of the need for vocational education for disabled students?
- What can my advisory council do to bring about vocational education for handicapped students?
- What can I do to help achieve this goal?

## Selection of Participants

In attempting to recruit participants in each of the states, all of the target advisory councils were asked to identify the appropriate persons on their state and local committees and submit a list to ACCD. State and local directors of special education, vocational education, and vocational rehabilitation were also contacted.

## Contact Persons

Within each state a contact person was identified to facilitate communication, to assist with logistics, to identify successful vocational programs serving handicapped students within the state, and to provide a link between the project staff and the various advisory committee members.

## Preparation of Resource Guides and Handbook

Products of this project have been the individualized resource guides that were designed for each of the four states involved during the first project year, and a draft advisory council handbook that was used during the training sessions. The four resource guides that were developed contain information on successful vocational education programs that include handicapped students (in each of four states). Much of the information contained in these guides was obtained from the state education agencies in Maryland, Illinois, and the District of Columbia. The information included in the Texas resource manual was acquired after several months of communication with special and vocational educators at the state and local levels. Additional information in the resource guides also includes:

- Vocational programs within the state which successfully include handicapping students,

- Information on other unique vocational programs for handicapped individuals,
- Key state publications and other resources available, and
- Names and addresses of state consultants and other key contact persons.

The advisory council training handbook entitled Handbook on Including Handicapped Individuals in Vocational Education: A Guide for Advisory Council Members was used in draft for at each of the training sessions. This handbook will eventually be produced in final form during the second year of the project. Material in this handbook includes information on the federal laws that mandate special education and vocational education. Information on career education, vocational education, and interagency cooperation is also included. Trainees at all the workshops were asked to evaluate the handbook and the results of these evaluations will be incorporated in the final draft.

### Needs Assessment

Prior to each training workshop, the needs of participants were evaluated using a needs assessment survey developed to help ACCD in selecting training objectives that would be most relevant to the trainees unique needs. Exhibit 1 is a sample of the knowledge areas that were surveyed. The actual workshop format varied from state to state to reflect those areas for which more information was required.

### Conference and Training Procedures

Conference and training procedures were recorded for each of the four state training workshops. Copies of the proceedings and a list of the participants who attended each of the training conferences were disseminated to all participants as a means of continuing the communications network that was established at the workshops.

Presenters for each of the state workshops were identified by (a) the state contact person, (b) the advisory committee members, and/or (c) the state education agency. The presenters were usually individuals involved in successful state programs.

## PROBLEMS AND SOLUTIONS

This section is organized in the same format as the preceding section so that the problems and solutions may be compared with the strategies used to implement the procedures.

### Roles of Advisory Council Members

Problem. During the first workshop the trainees were confused as to exactly what their roles and responsibilities would be as a result of the training workshop.

Exhibit 1

## Needs Assessment

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This checklist is designed to help us in selecting the training sessions which are most relevant to your unique needs. The purpose of this assessment is to help develop and plan a program to meet these individual needs. The results of this survey will assist us in selecting the most appropriate and beneficial resources to be compiled into a guide which will be presented to each participant at the workshop.

Directions: For each knowledge area listed check the box that most appropriately identifies your needs.

| KNOWLEDGE OR SKILL AREA | I have adequate skill/knowledge | I need more information | I have little skill or knowledge in this area | I have NO knowledge/ skill in this area |
|---|---|---|---|---|
| Education of Handicapped Act (94-142) | | | | |
| Vocational Education (94-482) | | | | |
| Rehabilitation Act (93-112) | | | | |
| Comprehensive Employment and Training Act (CETA) | | | | |
| IEP Development | | | | |
| Student Identification Process | | | | |
| Supplementary Services for Handicapped Students in Vocational Education | | | | |
| Definition of Voc. Educ. and its Implications for Handicapped Students | | | | |
| Vocational Training Options | | | | |
| Resources in Voc. Educ. for Handicapped Students | | | | |
| Difference between High School Voc. Educ. Program and Tech. Center | | | | |
| Barriers to Voc. Educ. for Handicapped Students | | | | |
| Roles for Advisory Committee members Re: Voc. Educ. | | | | |
| Funding | | | | |

Solution. A more comprehensive description of the participants' roles and responsibilities was developed and sent to all future trainees prior to the actual workshop. More information was included in the handbook.

## Selection of Participants

Problem. Some state advisory councils preferred to designate a specific individual as the project trainee rather than send a list of the entire advisory committee members' names, addresses, and phone numbers. This made it difficult to get enough trainees to warrant the training. For every 100 to 150 invitations extended by ACCD to be involved in the workshop, only about 25 individuals actually participated. Our goal was to train over 100 individuals during the first year. In reality, 84 persons were trained. Serving on advisory committees is often volunteer work in addition to full-time jobs. Advisory committee members usually had to miss work (take vacation time) to attend ACCD's training sessions. Few, if any, wanted to commit weekends from their already busy schedules. These barriers made it extremely difficult to acquire an adequate number of trainees for each state and to determine a mutually agreeable time for the workshop which would attract the greatest number of trainees.

Solutions. Contacting as many agencies through as many sources as possible was one way to acquire a sufficient number of potential trainees. Approximately 100 to 175 invitations per state were extended, with a return of approximately 25 trainees per state.

Linkages with other Office of Special Education projects, as well as state sponsored conferences and workshops related to vocational education, often provided greater incentive for trainees to attend. Such linkages also permitted maximum exposure and information from participants. During the first workshop held in Texas, participants were included in a statewide conference sponsored by the State Education Agency for administrators which featured vocational education for handicapped students. Similar linkages were established in other states and will continue when appropriate and possible.

## Contact Persons

There were no problems encountered with any of the contact persons.

## Preparation of Resource Guides and Handbook

Problem. It was often difficult to collect the necessary information for the state resource guides prior to each workshop. Sometimes there was little written information available on programs successfully including handicapped students in vocational education.

Solution. For all of the workshops except Illinois, which had the most information available, the resource guides were compiled and disseminated after the actual workshop. During the second project year, staff will attempt to collect this information during the state advisory committee meeting held several months prior to each workshop.

## Needs Assessment

Several drafts of the needs assessment instrument were tested and used during and prior to the first workshop, but no major problems were encountered.

## Conference and Training Procedures

Problem. Several trainees requested copies of the presenters' speeches which were not often available.

Solutions. Staff members took notes during workshop presentations and provided summaries to the trainees after the actual workshop. During the second project year all presentations will be taped and transcribed.

## EVALUATION

Because advisory councils and committees provide input and advice to key agencies, if their knowledge and information are increased, then their input will be more effective. One of the major goals of the project is to improve and possibly increase vocational education services for handicapped individuals. Therefore, one of the most important evaluation criterion for this project is the increased awareness, knowledge, and information of the advisory committee members. This is necessary to positively influence their respective advisory councils and committees. The following data focus on the perceived increase in knowledge and information on the part of the trainees.

The extent to which trainees acquired additional knowledge and information was assessed in the following ways:

1. Comparison of pre- and post-judgments by the trainees.
2. Trainees' evaluation of the draft handbook.

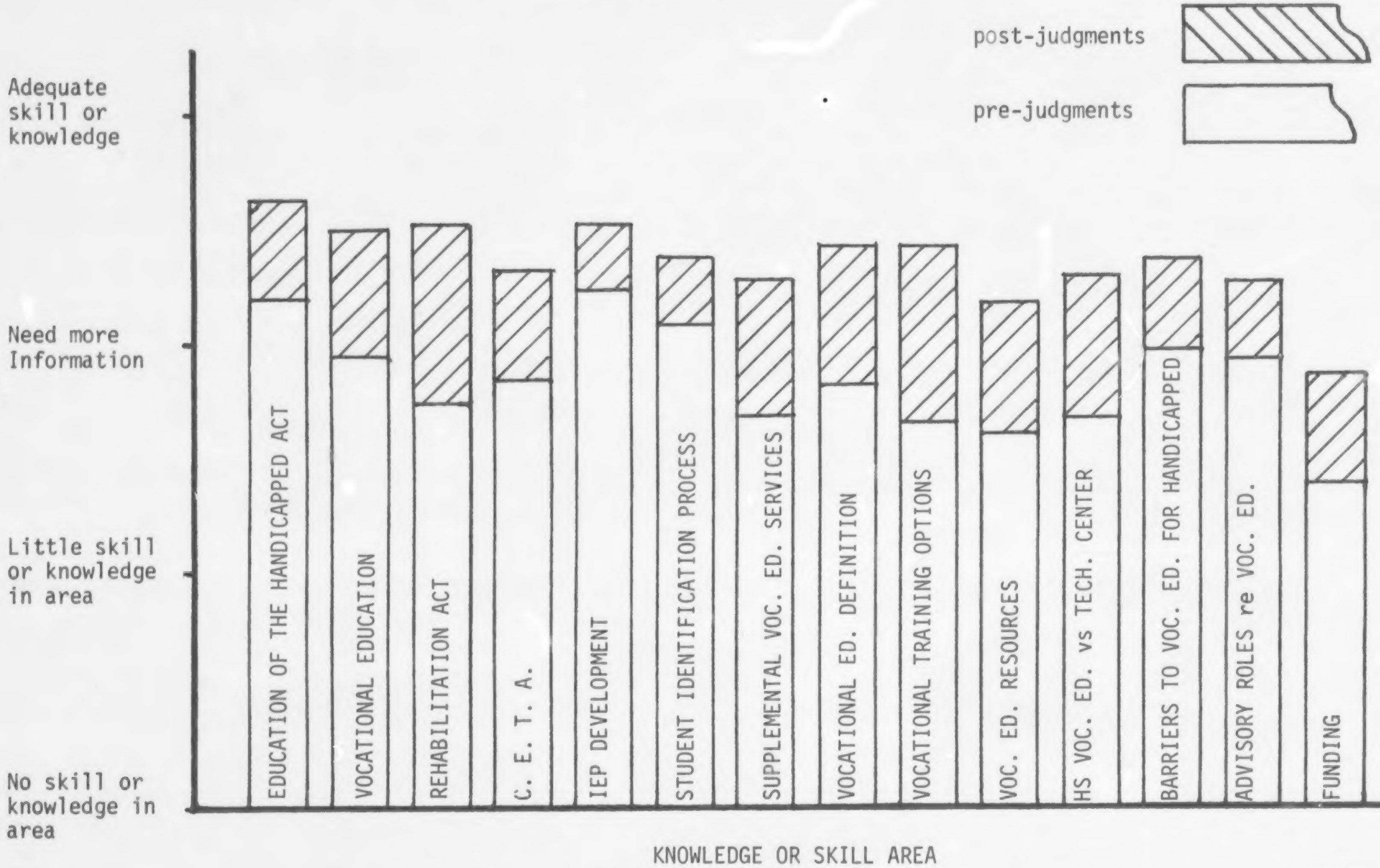
## Comparison of Pre- and Post-Judgments by the Trainees

The staff conducted pre-training needs assessments of all 84 trainees in each of the target states using the instrument described earlier in this chapter (Exhibit 1). At the conclusion of each workshop, the same needs assessment was administered to the trainees to determine whether or not they perceived an increase in their knowledge of the various areas of vocational education for handicapped individuals.

The comparative results for each workshop were examined, and increases in most areas were seen. By comparing the aggregate pre- and post-data for all of the workshops (see Figure 1), a significant increase in knowledge in all areas is evident.

Although the data indicate that this project is successful--that trainees' knowledge and information are increased and that they agree to share this with their respective councils and committees, thereby improving and possibly

Figure 1
Aggregate Pre- and Post-Judgments



expanding vocational education for handicapped individuals--additional evidence could further support this success. Because the project is designed to provide follow-up and technical assistance activities during the second year, it is anticipated that the continued actions and activities of the trainees already trained will provide further evidence.

## Trainees' Evaluation of the Draft Handbook

Each of the 84 trainees provided evaluations, advice, and suggested changes for the draft advisory committee handbook (see Exhibit 2). Most of the trainees made positive comments and offered constructive criticisms, such as,

- "Include a glossary of terms and definitions,"
- "Provide more specifics as to the roles and responsibilities of the trainees," and
- "List additional resources."

Exhibit 2

Evaluation of the Advisory Committee Handbook

1. Is the language understandable? YES NO
2. Are more definitions needed? YES NO
3. If yes, which terms need additional definition?

______________________________________________

______________________________________________

4. Was the content understandable? YES NO
5. Was the information useful? YES NO

Are there other questions that need to be answers?

Section 1 - Why train A. C. members? YES NO

EXAMPLE:

Section 2 - The Laws YES NO

EXAMPLE:

Section 3 - The I.E.P. YES NO

EXAMPLE:

Section 4 - Identification and Planning YES NO

EXAMPLE:

Section 5 - Vocational Education YES NO

EXAMPLE:

Section 6 - Career Education YES NO

EXAMPLE:

Should other areas be added?

Should any sections be left out?

Other suggestions, recommendations and/or questions:

## RESOURCES

### Cost Effectiveness

Certainly it can be said that providing handicapped individuals with appropriate vocational training enabling them to become taxpayers rather than tax users is cost effective. Statistics cited earlier in this chapter indicate the spiraling cost of dependency in this country. Therefore, the ultimate economic outcome is independence. This project is one of many efforts working toward this ultimate goal. There are several benefits of this project.

First, the trainees are trained to return and to increase the knowledge, awareness, and information of their respective advisory councils and committees regarding vocational education for handicapped individuals. Thus, the training is multiplied at minimal cost.

Second, trainees may select to write articles in their newsletters, visit their local schools, interact with parent and advocacy groups, or meet with other types of advisory councils. Once the major state advisory council members are trained, they, in turn, can encourage and influence the hundreds of advisory councils that exist at the local levels throughout the state. Thus, the long term impact of the project training has great potential.

### Resources Necessary for Replication

The resources needed to replicate the project design are:

* A coordinator,

- Content presenters, and
- Project materials.

## Coordinator and Presenters

The coordinator should be an individual who can allocate the time to accomplish the following:

1. Identify potential trainees at the state and/or local level,
2. Arrange the training and meeting logistics,
3. Acquire content presenters,
4. Administer and evaluate the project instruments, and
5. Provide follow-up assistance to the trainees.

Individuals within the state or local education agency who are responsible for vocational programs which successfully integrate handicapped students need to be identified. They should be contacted and invited to present the manner in which their programs operate.

## Project Materials

There are a variety of materials available which could be used to conduct the training; however, they are not necessarily geared to advisory council members. Because trainees may have little time to devote to learning about handicapped students in vocational education, they need information that is direct and to the point. Therefore, the staff has developed and compiled its own training instruments and materials. As mentioned earlier in this chapter, needs assessment has been developed along with the handbook and state resource guides described below.

At the conclusion of the project, the Handbook on Including Handicapped Individuals in Vocational Education: A Guide for Advisory Council Members will be available for dissemination. It serves as resource for participants during and after the training and provides some of the basic training content. It also provides the answers to the following questions:

1. What is vocational education for handicapped students?
2. What are the recent laws and policies affecting vocational education for handicapped students?
3. What are sample linkages with national, state, and local key policy influencing organizations?
4. What is interagency cooperation?
5. Where are some programs successfully including handicapped students?

6. How do the above programs operate?

7. What are some appropriate materials which assist in implementing vocational education for handicapped students?

8. What is the policy of my state education agency in providing vocational education for handicapped students?

9. Is my advisory council aware of the need for vocational education for disabled students?

10. What can my advisory council do to bring about vocational education for handicapped students?

11. What can I do to help achieve this goal?

A resource guide has been prepared for each of the target states. These guides provide a statewide overview of vocational education programs successfully serving handicapped students in the target state. Although people may be interested in learning about effective national programs, they are far more interested in their own state's efforts in this area. Each of the guides varies because they are relevant to specific states. Other information which may be found in these guides includes the following:

* Vocational programs within the state that successfully include handicapped students,

* Information on other unique vocational programs for handicapped individuals,

* Key state publications and other resources available,

* Names and addresses of state consultants and other key contact persons, and

* Other state relevant information.

## RECOMMENDATIONS

The project training could be easily and cost effectively replicated. For cross training, the state or local education agency is included in the initial workshop planning can often provide a meeting room and audio visual equipment at no charge. The education agencies can also assist by providing the lists of advisory council members and by identifying successful programs and presenters.

Another strategy is to provide training to one advisory council at a time, possibly during or immediately following a regularly scheduled meeting. Selected guests from other types of councils, particularly those representing the concerns of handicapped individuals on such councils, could be invited to attend.

During the second project year, ACCD has the capabilities to assist state and local advisory councils members initially trained to replicate their training. Limited funds are available for three such training sessions.

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# INTERDISCIPLINARY PERSONNEL PREPARATION IN CAREER/VOCATIONAL EDUCATION FOR THE HANDICAPPED

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## PROJECT OVERVIEW

### Project Philosophy

High quality career/vocational preparation for handicapped students can best be achieved by means of interdisciplinary collaboration between special education, vocational education, industrial arts, vocational rehabilitation, counseling, and other related areas. The thrust of such collaboration should be to allow handicapped students to gain the greatest possible access to regular training programs and personnel. This type of collaboration does not occur often spontaneously or easily, and personnel preparation programs should include efforts to facilitate its occurrence.

### Training Goals

In accordance with the above philosophy, our training program is designed to provide educators in various disciplines with:

1. Relevant training within their own disciplines,
2. Introductory experiences in other disciplines,
3. Useful skills from other disciplines, and
4. Shared experiences with students in other disciplines.

In this way, trainees acquire the competencies and attitudes needed for effective interdisciplinary provision of career/vocational education for handicapped students.

### Training Model and Procedures

Our project provides coursework for students enrolled in graduate degree or certification programs in the Department of Special Education, the Department of Industrial Education, or other departments offering training in vocational education or rehabilitation. The program is not a formalized degree program, but is instead a sequence of three courses totaling nine credits which can be included in a student's individual program of study in his/her department. The trainee group is intended to include approximately equal numbers of special educators, vocational educators, and industrial arts educators. A total of about 30 students are served each year. Most of the students are teachers in local school districts in Maryland who attend the University on a part-time basis.

A two-stage training model is employed. In Stage One (Fall Semester), students take introductory coursework. Vocational educators and industrial arts educators receive a specially designed introductory course in special education which is offered by the Special Education Department. Special educators receive a specially designed introductory course in industrial arts and vocational education which is offered by the Industrial Education Department. In Stage Two (Spring Semester), all students enroll in a "Joint Seminar in Career/Vocational Education for the Handicapped" and a "Joint Practicum in Career/Vocational Education for the Handicapped." These two courses are cross listed and co-taught by both departments. Further descriptions of the courses follow, and a complete list of the specific competencies is available from the authors.

Introductory Course in Industrial-Vocational Education. The purpose of this course is to provide experiences of theoretical, philosophical and technical nature in industrial-vocational education. Topics include developmental learning; technological processes, materials and products; career awareness, orientation and exploration; pre-vocational activities and vocational preparation; and job market opportunities. The focus is on the contributions that special educators can make to industrial-vocational education programs and the contributions industrial-vocational educators make in the instructional process for disabled persons.

Introductory Course in Special Education. This course is intended to provide industrial arts and vocational education personnel with an introduction to: (a) historical antecedents and current issues and approaches in the field of special education, (b) categories and characteristics of handicapped students, (c) special education techniques for assessing, teaching, and managing handicapped students, and (d) benefits and approaches in interdisciplinary collaboration with special education personnel.

Joint Seminar in Career/Vocational Education for the Handicapped. Offered jointly by the Departments of Industrial and Special Education, this course provides students in various disciplines with experiences of common benefit and uses the students themselves as training resources in developing competencies and attitudes conducive to interdisciplinary collaboration in this area. National, state, and local trends and issues are discussed. Exemplary approaches to service delivery are examined. Trainees are given the opportunity to interact with each other in a series of cross-disciplinary activities.

Joint Practicum in Career/Vocational Education for the Handicapped. The practicum involves six to eight full-day field visits which are arranged by the project staff. The trainees' school districts are reimbursed for substitute teacher pay. These visits have two complementary purposes: (a) to expose trainees to programs in fields other than their own and (b) to expose trainees to exemplary programs in career/vocational education for the handicapped. A wide range of programs are involved including industrial arts, vocational education, special education, work study, vocational evaluation, rehabilitation services, and sheltered workshops. Students complete individualized projects in these visits and attend on-campus seminars to discuss their experiences. Students focus on such aspects as goals and purposes, student populations, program and course organization, teaching methodologies, instructional materials, laboratory/classroom management, observation, evaluation, assessment, and professional concerns.

Project L.E.A.P. The project also includes a non-degree, off-campus component entitled Project L.E.A.P. (Learning Experiences and Application Programs). Project L.E.A.P. is intended to develop a model inservice training program consistent with the training goals of the project. Inservice training is provided off campus to special educators, vocational educators, industrial arts educators, regular classroom teachers, administrators, counselors, and other personnel in Maryland. A principle outcome is the development and evaluation of training modules which can be used in similar training efforts. These modules are available for use within the state and elsewhere.

## STRATEGIES

The following strategies and methods are considered to be of particular value in this program and are recommended for application in other similar training efforts.

### Interdepartmental Collaboration

An appropriate approach to personnel preparation in career/vocational education for the handicapped is for departments or units in different disciplines to collaborate in the provision of training. This approach permits a high degree of access to expertise and resources in the various disciplines and eliminates the need for personnel in one field to become "instant experts," to "reinvent the wheel," or to "remake mistakes" in other fields. In university programs, this approach does not simply mean that different departments should form committees, cross list their courses, co-teach seminars, or advise their students to take courses in other departments, although each of these specific actions may be of value. This approach cannot be fully beneficial unless the different departments make a commitment to the interdisciplinary effort and enter into an ongoing relationship that is productive, contributes to staff and program development, and results in increasingly sophisticated and effective training. This type of collaboration is not always easy (see section on problems), but if the necessary effort and commitment are made, a viable relationship can be maintained. The result can be a "whole which is greater than the sum of the parts," which is the essential goal of interdisciplinary efforts. The training program at the University of Maryland provides a framework for this type of co-equal participation by two departments. This is perhaps the single most valuable aspect of our program.

## Two-Stage Training Model

It is sometimes difficult to accommodate trainees with diverse backgrounds and needs in the same training program. However, interaction between trainees with widely differing professional backgrounds is an essential aspect of the training offered by this program. The two-stage training model is an effective strategy in this situation. In the first stage, trainees are separated according to background and provided with introductory coursework specifically appropriate to their needs. For example, special educators are introduced to such topics as the cluster concept and basic tools and materials, while industrial arts and vocational educators are introduced to such topics as the IEP process and characteristics of handicapped students. In the second stage, trainees with differing backgrounds are brought together for shared experiences of common benefit. The coursework in the first stage provides a foundation for these shared experiences.

## Training Sequence Not Degree Program

The training offered by our program does not constitute a formal degree or certification program, but is instead a sequence of nine credit hours which can be included in a trainee's program of coursework in one of the several departments. This arrangement has the advantage of making the training available to a broad range of trainees, not just those who are willing to devote an entire degree program to the area. Some trainees elect to take additional coursework related to career/vocational education for the handicapped and to make this an area of concentration in their programs. Some elect to take coursework in other topics. The training sequence is appropriate to both types of students and is also adaptable to inservice applications.

## Student Incentives

Although there is great demand for training in this area, teachers are often hesitant to enter into a training program that requires significant commitments of time and effort as ours does. Also, several competing programs are available. Thus, student incentives have been needed in the initial establishment of our program. Effective student incentives will, with minimum expense, draw students to a program without attracting students who have no interest other than to reap the benefit of the incentive. This project uses federal funds to pay one-half tuition for the nine hours of project coursework and to reimburse the school districts for substitute teacher pay to allow the project trainees to make field visits. This has proven to be a cost effective incentive and has attracted competent and well-motivated students. We select the students on the basis of (a) admission to graduate school, (b) professional training and experience, and (c) potential contribution to our training and to the field. Since the trainees themselves are an important training resource, they should be carefully selected.

An attempt will be made to reduce the project's dependence on tuition waivers as an incentive for student enrollmen One alternative incentive is the "minigrant" for which students write proposals during the course of the training experience. Such minigrants can be used to defray the costs of activities or materials for the trainees' professional use (e.g., videotapes of job interviews for classroom use, work samples, or field trips). The total cost of such minigrants may be less than the cost of tuition waivers, but they may be as effective an incentive. A second alternative is to organize a resource and service exchange among the trainees. This activity may involve little or no expense, but may provide a degree of incentive. A third alternative is to issue certificates upon program completion. These certificates may have no official authorization, but may be useful to represent the nature of training experiences the trainee has undergone.

## Specific Training Activities

The following training activities appear to be particularly successful components of the training offered by this program.

Interviews. Trainees are required to conduct several structured interviews outside of class. Industrial arts and vocational education trainees are required to interview special educators in their own schools, and special educators are required to interview vocational or industrial arts educators. In addition, special education trainees are required to interview employers or personnel officers, and non-school service providers such as CETA (Comprehensive Employment and Training Act), rehabilitation, or ESA (Employment Security Administration) counselors. These interviews expose the trainees to other perspectives and fields and may provide a basis for understanding, further learning, and continued communication.

Case study. Each vocational education or industrial arts trainee is required to complete a case study on a handicapped student in his/her own school. Although most of these trainees are currently serving handicapped students, this case study provides an opportunity for in-depth analysis of a handicapped student, the problems he/she faces, his/her strengths and potential, and the methods and procedures for meeting his/her needs.

Hands-on experiences. Special education trainees are given introductory experiences in technical and laboratory processes in industrial education. These experiences include use of tools and materials, project construction, line production, and planning technical instruction for handicapped students. These experiences develop basic competencies and also increase understanding and appreciation of the technical aspects of industrial education.

Panels. Panel discussions offer an effective format for instruction on relevant topics. The following panel discussions have been included in the Joint Seminar this year:

* a panel of handicapped adults discussing their education and employment experiences,

* a panel of public school personnel involved in innovative service delivery in career/vocational education for the handicapped,

* a panel of personnel involved in non-public school service delivery (e.g., CETA, rehabilitation),

- a panel of state and local administrators discussing proposal development and the processes of state and local planning,
- a panel of vocational evaluation personnel, and
- a panel of employers and potential employers of handicapped persons.

This format allows for presentation of current information by persons who are directly involved in various aspects of career/vocational education for the handicapped.

Interdisciplinary activities. Since a major focus of our program is upon the development of effective interdisciplinary collaboration, interdisciplinary training experiences are essential. These experiences are provided in both stages of training. In the Stage One courses, trainees explore, via discussions and interviews, the barriers to interdisciplinary collaboration (e.g., attitudes and stereotypes, and administrative arrangements) and the possible benefits of collaboration. In Stage Two, trainees engage in interdisciplinary activities such as IEP development, equipment modifications, and group discussions. In addition, trainees visit selected programs in other disciplines.

Field visits. Research suggests that an effective way to modify trainee attitudes and competencies is to combine coursework and field experiences. Although these field visits pose certain financial and logistical problems, they are an important training component. They provide students with direct exposure to exemplary programs and to programs in fields other than their own. The type of learning that occurs would be difficult to duplicate in an on-campus course.

Individualization procedures. Given the wide range of trainee needs and interests encountered in our project, steps are taken to individualize experiences to the maximum possible extent. In the on-campus courses and seminar, projects are designed to allow flexibility and individualization. Use has been made of individual contracts in which students reviewed areas of need in their own school and negotiated individual projects to address these needs. In the field placements, specific visitation sites and assignments have been selected as the basis of student survey responses and interviews. Use has been made of an IEP-type form in which students reviewed their needs and goals for the field visits, formulated strategies to attain these goals, and proposed documentation to demonstrate progress toward those goals.

## PROBLEMS AND SOLUTIONS

Impediments to successful project implementation are found in the planning, implementation, and follow-up stages and affect such program aspects as linkages, training experiences, and evaluation.

### Linkages

Successful planning and implementation depend on the ability of the project staff to establish and maintain communication linkages within the University, and between the project and various agencies at the federal, state, and local levels. The Special Education and Industrial Education departments are across campus from each other. This distance eliminates some spontaneous interaction and can actually result in penalties for meetings (e.g., parking fines and towing notices). It is also difficult to maintain project identity since the faculty of each department rarely have contact with the project personnel not in their department. The project associate directors meet weekly and the project staff meets bi-weekly to ensure that the collaborative nature of the project is maintained. These meetings are productive, but are generally directed to specific items of immediate business which leave little time for informal, non-structured interaction.

The project coursework does not comprise a formal degree or certification program, but is instead included in programs in several different departments. Thus, communication linkages are necessary with graduate advisors in Special Education, Industrial Education, and in other departments which offer training in vocational education. For students, this coursework has to compete with other degree and certification requirements. It can be difficult for students to fit all of the required and desired courses into their programs, thus the informed support of their advisors is essential. An information handbook is being prepared to address this need.

Due to the fact that the project is a university-based training program, close formal ties with local education agencies (LEAs) are not readily established. Training procedures call for cooperation from LEAs in allowing released time for teachers during the Joint Practicum field visits. Consent for teacher participation in the practicum must be obtained from principals and central office administrative personnel. The proper procedures for this process differ from school system to school system. The necessary liaison work demands time and careful coordination throughout the course of each academic year.

## Time Limitations

To the extent possible, the sequence of training activities is formulated to represent a clear progression through awareness, knowledge, and skill activities. However, it is often difficult to select specific course content and experiences for such a limited amount of training time. Training activities to develop the full range of learning outcomes--knowledge, skills, and attitudes--can be time consuming. Thus, a clear prioritizing of goals and methods is necessary. This is accomplished through pretests, needs surveys, posttests, and course and program evaluations. Material is adapted to group and individual needs, and the process of evaluation and revision is ongoing.

## Exemplary Practices and Programs

This program relies heavily on state and local resources to provide exemplary practices and programs in career/vocational education for the handicapped. Certainly, the quality of the field experience is largely determined by the nature of the programs visited. Maryland has a number of excellent programs geographically distributed around the state. But, given the number of different visitation sites that must be utilized each year (approximately 30 to 40), and the new emergence of this area as a priority in most school districts, it has been difficult to identify sufficient numbers of established exemplary programs staffed by qualified and experienced personnel. Visits to some programs only give students a different perspective on problems and barriers which they themselves may face. The project staff expects that in a few years many exemplary programs will be staffed by former students of the project.

## Student Diversity

The program serves a variety of students. Not only are the students from different disciplines, but there is also a great diversity of students in any one of the disciplines. Special education trainees have ranged from elementary to senior high school levels, serving students ranging from severely to mildly handicapped. Industrial arts and vocational education participants have spanned middle school, junior and senior high school levels. Teaching and nonteaching roles have been represented, and professionals involved in specific programs which demand cross-disciplinary work have also enrolled in the project. Such diversity demands individualization (see section on effective strategies). In a sense, the situation offers the project staff an opportunity to "practice what we preach" with regard to meeting individual student needs.

## EVALUATION

The Discrepancy Evaluation Model provides a basis for evaluation of project activities and outcomes. This model evaluates inputs, processes, and outputs by identifying key "evaluation concerns" and "evaluation questions," and by selecting sources of information to generate necessary information. The general evaluation concerns are:

1. Do advising and recruitment procedures prepare students to progress through the program as prescribed and to integrate it into their other coursework and ultimately their professional roles?

2. Are courses sequenced appropriately, with experiences in Stage One preparing the students for Stage Two?

3. Are practicum experiences relevant, well-managed, and well-supervised?

4. Does the program develop student competencies and attitudes conducive to career/vocational education for the handicapped?

5. Does the program develop student competencies and attitudes conducive to interdisciplinary collaboration in the provision of career/vocational education for the handicapped?

We gather ongoing evaluation data on competencies and attitudes, and we gather exit and 3-month follow-up data on training outcomes, new professional activities, and impact on service delivery. Our primary means of data collection is the written survey with items eliciting ratings or written responses. At this writing, we are conducting a one-year follow-up evaluation by means of telephone interviews with former trainees.

Evaluation data are used in both formative and summative applications. Evaluation of each training experience (e.g., course, practicum, and workshop) is used to make decisions on subsequent training experiences for the current trainees and also to make decisions concerning modification in future delivery of training. Evaluation results will also be used to document the effectiveness of this training approach to support continuation, dissemination, and replication.

Evaluation results to date appear to support the effectiveness and impact of the program. During our first project year (academic 1979-80), we trained 27 vocational educators, industrial arts educators, and special educators. A conservative estimate is that this group of professionals serves a total of at least 450 handicapped students each year. As of this writing, we have completed training a second group of trainees for academic year 1980-1981. Our current and former trainees occupy a variety of professional positions in 14 counties of Maryland and the District of Columbia.

Overall, the evaluations indicate that our training approach is effective. For example, mean ratings for items on the exit evaluation related to the major training goals were as follows (1 = "strongly disagree" and 5 = "strongly agree"):

| Item | Mean Rating |
|---|---|
| This training sequence improved my attitude toward regarding career/vocational education for the handicapped. | 4.43 |
| This training sequence improved my ability to provide career/vocational education for the handicapped. | 4.38 |
| This training sequence improved my attitude toward interdisciplinary cooperation. | 4.05 |
| This training sequence improved my ability to participate in interdisciplinary cooperation related to career/vocational education for the handicapped. | 4.33 |

When asked to describe probable impact that this training sequence will have on their professional activities, students responded as follows:

Vocational Education and Industrial Arts Trainees:

This training will have helped me in my class activities. I am better able to work with special and slower students in my classes.

Makes it somewhat easier to work with handicapped students.

There is a greater empathy for the handicapped, and greater possibility for inclusion of alternate programs being offered in my classes.

Much more work will be done between Industrial Arts and Special Education in my school--good feeling.

Improve curriculum for handicapped students in program. Improve interdisciplinary relationships.

Should a position open up in my county, I may apply for it. I will encourage others to become knowledgeable about this field.

I have a better idea of what the special educators have been trying to do. I hope to have an interdisciplinary team at my school. This training gave me a great deal of insight into special education and vocational evaluation.

These courses were part of my master's program. I have learned a lot, and I have a new position and receptive attitudes toward dealing with special needs learners.

I will use new career awareness attitudes with my students and help other teachers integrate these attitudes into the curriculum.

It will make me look at the handicapped (and all students in general) with more care--will try to approach students on a lower key and be less demanding.

I would now consider taking a position teaching more handicapped students.

A closer contact with other disciplines in the school. A closer look at what a child is doing in relation to his/her ability.

To help me try and get a pilot program off the ground.

Special Education Trainees:

This training has given me the opportunity to see how handicapped students can enter into vocational programs with the right kinds of adaptive materials and sufficient support systems.

This program filled in many of the gaps in my present experience.

Maintain and develop skills in vocational instruction of the handicapped.

It has made me more aware of the handicapped students' positions in the Industrial Arts class and how much communication is needed between the two departments.

At this point my professional plans are nebulous. I will have to research the types of positions for which employers are seeking persons with this background.

I have already used my coursework as references in applying for other jobs in the county.

In the 3-month follow-up survey, 88 percent of the former students in instructional positions responded positively when asked, "Due to your participation in the CVEH [Career/Vocational Education for the Handicapped] program, have you changed some components of your classroom operation?" Examples of explanatory comments include the following:

> I now check students' records very closely. Additionally, I have developed a reading type test to help me ascertain the level of my students. I am using my slide/tape program model as part of the class.
>
> I have an improved understanding of my students and their handicaps.
>
> Modification of electricity instructional materials.
>
> More detail in written instructions. Requested lights for on-off; safety in machine operation. Closer supervision in the beginning.

## RESOURCES

Our training approaches are quite flexible, but the following are considered to be essential or important resources for successful application of these approaches.

### Multidisciplinary Involvement

A number of professional fields can contribute to training in career/vocational education for the handicapped, and training programs should be structured upon a framework of interdisciplinary collaboration between fields. This type of collaboration should infuse all phases of the program --planning, implementation, evaluation, and revision. In our project, the fields of special education, vocational-industrial education, and industrial arts have been fully involved, and planned expansions will increase involvement of rehabilitation and a wide range of vocational areas. Other fields which might be involved in such programs include counseling and guidance and administration.

In university settings, interdisciplinary collaboration usually translates into interdepartmental and sometimes intercampus collaboration. In state or local education agencies, such collaboration may entail linkages between several different administrative units. In all cases, efforts should be made to involve the most qualified available representatives and the most fully established departments or administrative units in each professional field.

The need for multidisciplinary involvement applies to the trainee populations. Efforts should be made to avoid the pitfall of providing isolated training for personnel in various fields with little or no structured interdisciplinary interaction. We have been satisfied with our approach of enrolling trainees from different disciplines in an integrated, structured training program. Other, probably less effective, approaches might include bringing together trainees from separate programs to provide them with some degree of shared experiences and inviting guest speakers or panelists from different disciplines to visit trainee groups in other disciplines. In any case, access to student or personnel in a variety of disciplines should be considered an essential resource.

### Administrative Support

Informed administrative support is essential for this type of endeavor, and efforts should be made to cultivate and maintain this support through all phases of the training project. In our case, the Chairmen of the two participating departments have served as project co-directors, and the Dean's office of our college has been consistently supportive. It is important to obtain support from levels of administration that encompass all of the participating disciplines and to ensure that the administrative support is based on current and complete understanding of the approaches and goals being pursued.

### Exemplary Practices and Programs

A training program in this area will have little substance unless it taps into the growing body of knowledge concerning appropriate and effective approaches in career/vocational education for the handicapped. Ongoing review of professional literature, attendance at professional meetings and conferences, and use of consultants are helpful in this regard. Attention should not be focused solely on career/vocational education as applied to the handicapped, but should also extend to the knowledge and expertise to be found more broadly in such fields as special education, industrial arts and vocational education, rehabilitation, and counseling. Thus, the involvement of people with real expertise in these various fields is essential.

It is also important to make full use of the field-based programs and personnel in the local or state area. This should not be limited to programs providing career/vocational education services to handicapped students, but should also include noteworthy regular programs in vocational education, industrial arts, and special education. Nonschool programs operated by rehabilitation, CETA, nonprofit organizations, and employers may also be capitalized upon. All of these programs and personnel can be utilized in various ways. Personnel can serve as instructors, guest speakers, panelists, consultants, and members of advisory councils. Programs can serve as visitation sites and sources of information regarding service delivery. It is always important for training programs to be compatible with service delivery systems, and in this area of rapid growth and development, particular attention must be paid to maintaining this compatibility.

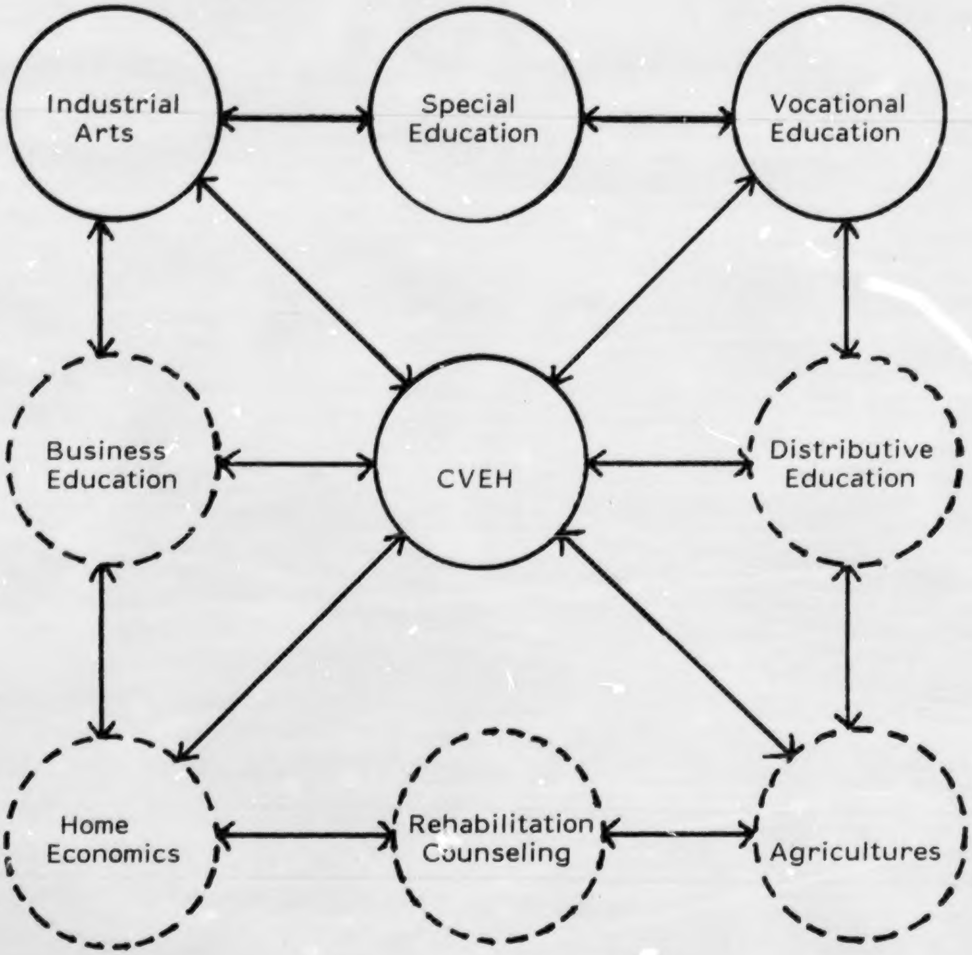
## RECOMMENDATIONS AND FUTURE PROGRAMMING DIRECTIONS

### Project Expansion Into New Areas

It has been helpful for this project to begin with a linkage between only two departments, but at the University of Maryland, as at many other universities, more than two departments can have productive involvement. Thus, the project is expanding to include additional vocational education areas and vocational rehabilitation. This expansion is illustrated in Figure 1. Current project areas are indicated in solid lines and projected areas are indicated in dotted lines.

Figure 1

AREAS INCLUDED IN THE PROJECT



Note: Previous project areas are noted by solid lines. Proposed project expansions are noted by broken lines.

## Off-Campus Activities

Our trainees learn how to understand each other and work together, but this skill is not always easily transferable to their own school settings. School district and individual school policies often do not place career education and vocational education programming for handicapped students in a priority position. After a year's coursework designed to promote interdisciplinary collaboration, some students are still faced with work constraints that greatly hinder any type of team work or interdepartmental collaboration.

We would like to transfer the essential elements of our training project to an LEA-based inservice program. Such an off-campus approach would address two of our major concerns: (a) lack of training programs in rural areas--The College Park campus is not within a reasonable commuting distance for western, southern, and eastern communities in Maryland and (b) lack of support for trainees--An LEA-based program would be built on a commitment by local supervisory personnel in special education, vocational education, and other appropriate areas. Supervisory personnel and university faculty would interact to plan appropriate, specially designed inservice training.

The two-stage model could be modified in the following ways:

Stage I: Introductory training in complementary disciplines. Groups could be separated for a number of meeting periods to discuss stereotypes and to learn key concepts, terms, and principles of complementary fields. Alternatively, groups could be formed from the outset and meeting periods could be so structured that each person would be responsible for orienting the group to his/her field.

Stage II: Joint experiences. Field visits could be accomplished in a number of ways. Visits to programs in other counties could be made during district-wide professional days. Classroom exchanges could also be coordinated so that trainees could actually teach each other's classes for a day. Teachers could use part of one planning period each week to observe relevant programs in their own schools. The joint experiences would be carefully focused on individual school or district needs. Team formation would be based on developing a network which would continue to interact in a problem-solving mode. Course instructors would serve as resources and facilitators as well as presenters of instructional content.

Other modifications. Several other modifications are possible to adapt the training program to an inservice setting. First Stages I and II could be condensed and completed within one semester. The option of continuing with special topics or additional coursework in this area would be available. Second, to attract people who do not need additional credits or who do not wish to be involved in formal grading and evaluation, the course could be offered as a county inservice program with credit and noncredit options. Third, the program could be adapted to emphasize longitudinal programming for students by including participants from elementary schools and post-secondary institutions as well as from junior and senior high schools. Finally, if the training proves successful, parents and representatives from local businesses could be recruited to serve on planning teams.

In conclusion, our project has several particularly noteworthy features. One is the collaborative interdepartmental relationship that has been established and productively maintained. Another is the training model which allows us to bring together students in differing professional fields and to address their individual and group training needs. A final feature is the growing body of specific training methods and materials we have accumulated and tested. Our approaches are adaptable and replicable in other situations, and we recommend their use to anyone engaged in personnel preparation in career/vocational education for the handicapped.

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# A COOPERATIVE, INTERDISCIPLINARY PERSONNEL DEVELOPMENT PROJECT IN VOCATIONAL/CAREER EDUCATION FOR THE HANDICAPPED

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## PROJECT OVERVIEW

Growing as it did out of the civil rights movment, P.L. 94-142 includes two goals: first, to include previously excluded handicapped students in America's education system; and second, to end the isolation of handicapped students needlessly shunted out of the mainstream of this education system. This project addresses the second of these goals. Through this project, hundreds of vocational teacher education students have been more adequately prepared to teach handicapped students in their classes and, because of more positive attitudes, are now more apt to include those handicapped students in their vocational classes.

Specifically, this project is a combination preservice/inservice training program designed to increase the supply of teachers, administrators, and support personnel who prepare the handicapped for careers. It has been our pleasure to be part of a cooperative enterprise between three institutions of higher education in Texas: Prairie View A & M University, with 3,912 students, is located just west of Houston in a rural setting. Sam Houston State University, which grew out of a teacher education institution, has 10,903 students and is located north of Houston in a town of 22,165 people. Texas A & M University, with over 33,000 students, is located northwest of Houston in a metropolitan area of almost 100,000 people. This project is currently finishing its third year.

Each of these institutions has a preservice vocational education program. Prairie View A & M University offers industrial education; Sam Houston State offers home economics education and agricultural education; and Texas A & M University offers industrial education and agricultural education. Also on the Texas A & M University campus is an extension education program for nondegree industrial teachers and health occupations teachers.

In addition to the preservice teachers at these institutions, the following educators were also addressed:

1. Vocational educators who accommodate the handicapped in all facets of vocational education, including laboratory classes, cooperative vocational programs, youth organizations, vocational guidance services, and consumer education;

2. Industrial and practical arts teachers who instruct the handicapped in industrial arts, practical arts, and pre-vocational programs;

3. Secondary special education teachers who understand the world of work and who prepare handicapped students for participation in vocational and industrial arts education;

4. Special education work-study coordinators who coordinate efforts among public agencies, private industry, and the handicapped to insure employment that is stable and economical; and

5. Vocational teacher educators at institutions of higher education, charged with preparing their students to teach handicapped students, but unprepared themselves for this task.

## Objectives

Given this setting and given this group of recipients, a multidisciplinary team from the three institutions was set up to accomplish the following eight objectives:

1. To create cooperative institutions to prepare vocational and industrial arts educators for working with the handicapped, and to prepare special educators for supporting and contributing to career development of the handicapped;

2. To develop instructional modules which (a) meet certification requirements for teaching handicapped children and (b) assist prospective and practicing teachers, administrators, and support personnel in special education or vocational and industrial arts education in preparing the handicapped for employment;

3. To encourage faculty members from vocational, industrial, and technical education to infuse information about the handicapped into preservice and inservice courses, and to create a mechanism to support this infusion;

4. To establish mini-resource centers at three cooperating institutions to acquaint faculty members and students with career/vocational education for the handicapped;

5. To offer inservice programs and graduate level courses pertaining to career/vocational education for the handicapped;

6. To plan courses for vocational/industrial arts teachers of the handicapped and to encourage certification of full-time vocational/ industrial arts teachers of the handicapped based on these courses;

7. To disseminate information resulting from project activities and to exchange materials with other teacher training institutions; and

8. To monitor the impact of the proposed project through a series of evaluation activities.

These program objectives were derived from a series of meetings with deans of education, applied sciences, and technology at the three cooperating institutions--Prairie View A & M University, Sam Houston State University, and Texas A & M University.

## STRATEGIES

### State Certification Requirements

The success of this project has depended on many factors, the first of which was the action of the Texas Education Agency on July 9, 1977. On this date, the State Board of Education required that all persons receiving certification to teach at either the elementary or secondary level must have knowledge and skills relating to the education of handicapped students. These requirements state that within the framework of existing programs for elementary and secondary teachers, the following knowledge and skills must be addressed:

1. Knowledge of the concept of least restrictive alternatives and its implications for the instructional process;
2. Knowledge of the characteristics and learning differences of handicapped pupils;
3. Skills in informal assessment and a variety of instructional techniques and procedures for implementing educational plans for handicapped pupils; and
4. Knowledge of the admission, review, and dismissal processes and understanding of the individualized educational program for handicapped pupils.

Full implementation was required by the fall of 1979.

This mandate from the state's highest educational governing board provided the vital impetus for teacher education institutions to address the issue of preparing teachers to work with the handicapped. Project staff, rather than needing to encourage personnel from the cooperating departments, were meeting a sudden need. As is so often the case, administrative requirements spurred interdepartmental cooperation.

Worded as they were, the regulations had another effect on the project. Of the four requirements, three can be suitably fulfilled within an introductory education course because of their cross-disciplinary function. These are the requirements relating to the concept of least restrictive alternatives; the characteristics and learning differences of handicapped pupils; and knowledge of the admission, review, and dismissal process and the individualized educational program. The requirement relating to instructional techniques and procedures for implementing the educational plan for handicapped pupils cannot be given completely within a general education course. Such skills must be addressed within courses dealing with specialized teaching fields. This requirement, therefore, meant that vocational teacher educators would have to be involved in providing this information. These teacher educators were, after all, the people who would know what the educational plan in a vocational program would entail for any student, including the handicapped student. The areas specific to vocational training include employability, job preparation, safety, and techniques for vocational demonstrations. Given the fact that procedures for implementing a handicapped student's education plan would need to be addressed in every facet of the vocational education curriculum for preservice training, the state education agency's intent to infuse this information within existing programs is clear.

The action by the state education agency determined three factors in the project: First, this action provided a powerful impetus for the achievement of the project objectives. Second, the action determined that vocational teacher educators would need to be involved in the provision of special education training in their preservice courses. Third, the state education agency action gave blessing to the infusion approach as opposed to the additional course approach.

## Inservice Training of Vocational Teacher Educators

At first, vocational teacher educators relied on other personnel to infuse this information. They invited guest lecturers into the classes--practitioners, past students who had had experience with students mainstreamed into their vocational classes, other teacher educators, or support personnel. They also took their students on field trips to exemplary vocational programs for handicapped students or to support services facilities such as the Texas Rehabilitation Commission facilities or sheltered workshops. Teacher educators also made extensive use of project personnel and resources. One member of the Vocational Special Needs Program goes each semester to lecture to the student teaching class in Agricultural Education, going once before student teaching and once after student teaching. Those students who might have been inattentive before student teaching come back far more ready to listen after their experience has taught them the importance of the topic. Teacher educators have found these lectures to the student teaching class to be an extremely effective strategy for infusion.

Nevertheless, as time progressed, teacher educators discovered that much of the burden of infusion rested on themselves, since the information had to be included in so many aspects of the regular preservice program. The fact was, however, and still is in far too many instances, that vocational teacher educators were virtually untrained in special education. Their lack of training was accentuated by the fact that, unlike teachers in the schools, teacher educators do not have even the opportunity to learn by experience. Whereas teachers in public schools are learning from the handicapped students in their classes, teacher educators, separated as they are from public school classrooms, do not have even this method of learning. Most are unaware of special education procedures, not even recognizing the role of a resource room teacher. Very few have ever knowingly had a mentally retarded student in thier classes and consequently envision a very low level of functioning. Almost none have fully grasped the significance of the individualized educational plan or understood the implications of recent legislation.

One strategy for this project, therefore, was to use the resources of the three cooperating institutions to strike a bold initiative in the inservice training of vocational teacher educators. This strategy began with informal meetings with the teacher educators from the three cooperating institutions. These orientation meetings, designed to acquaint faculty with information on the project, also gave information on teaching handicapped students. It was determined that vocational teacher educators needed information on the following topics, if they were to adequately infuse knowledge and skills relating to handicapped students into the preservice courses:

1. Providing the least restrictive environment for all students;
2. Preparing an individualized educational plan;
3. Adapting programs to meet individual handicapped needs;
4. Teaching strategies to meet the educational needs of the handicapped;
5. Planning the instructional environment;
6. Developing skills for occupational transferability;
7. Assessing the job market for handicapped students;
8. Identifying and assessing entry level skills;
9. Major influences affecting career decisions and career development;
10. Identifying and using evaluation techniques;
11. Vocational assessment;
12. Placement of handicapped graduates; and
13. Cooperative education for handicapped students.

One effective approach for teacher educators within the three cooperating institutions was to visit exemplary projects within their teaching area. For example, Daniel Householder, Head of the Department of Industrial Education at Texas A & M University, visited three occupational versatility programs in Vancouver, Tacoma, and Bothell, Washington. According to Householder, "The three programs were outstanding in their effectiveness with individuals of varying abilities." Other teacher educators attended national meetings of the Council for Exceptional Children, meetings they would not have otherwise attended and which encouraged interdisciplinary functioning on the local campuses.

## Statewide Workshops

But as the need for training became more evident within the three cooperating institutions, the decision was made to extend the impact of the project to other teacher educators in the state of Texas. The multidisciplinary team from the three institutions decided to sponsor a statewide workshop for vocational teacher educators. This workshop offered presentations on certification requirements, legislative background, curriculum and materials for handicapped students, and personal experiences of mainstreaming. Project staff also sought to include practitioners among the presenters with information on methodology, local school district policies and practices, coordinating programs, and vocational assessment. The infusion process itself was thoroughly discussed by participants, covering content, methods, evaluation, and processes. Participants also expressed their views and suggestions on safety, the classroom placement process, entry and exit level skills, classroom management, and job placement.

Over 85 people attended the workshop, representing over 75 percent of the vocational teacher education institutions in Texas. According to workshop evaluations, educators in attendance "came away feeling inspired to learn more." Adjectives used to describe the workshop included "pertinent," "worthwhile," "thought-provoking," and "excellent." One participant said, "My attitude toward the whole area has changed to the point that I feel a lot more comfortable with the handicapped." Still another said, "Everyone attending should return home far better educated about vocational special needs." Follow-up activities suggested by participants included providing an inservice workshop for area vocational educators and finding out more what their own colleges of education were doing for the handicapped in general secondary education courses.

A major follow-up on the part of project staff was to plan a second workshop for the following year. With funding from the state education agency, program personnel sponsored a workshop in March, 1981, designed to address needs expressed at the first workshop. In order to identify the content to be infused in vocational education courses, participants at the second workshop met by vocational areas with specialists in three handicapping conditions: mental retardation, learning disabilities, and emotional disturbance. This overall goal was met through extensive discussion questions which will be reported in a handbook for teacher educators. Once again this workshop was a great success for participants, who not only learned about the vocational training of handicapped students but also were encouraged concerning the appropriateness of this training.

Plans are even now underway to seek funding from the state education agency for inservice workshops for teacher educators. At these workshops, program personnel will present content for infusion, report workshop results, encourage appropriate training, and provide any additional information and resources teacher educators might request.

These two activities, the second teacher education workshop and the proposed inservice workshops, grew out of the initiative introduced through the project described in this report. These activities, therefore, are one measure of the project's success.

## Resources for Teacher Educators

In addition to training for teacher educators, the second need that became apparent during the course of the project was the need for resources that support the infusion of information on the handicapped in vocational education courses. A great many materials have been generated for students being educated in the mainstream of America's educational system. Very little has been prepared for the express use of vocational teacher educators, however, and even less has been *gathered* for the use of teacher educators in Texas.

Project staff, therefore, set about to address both the preparation and collection of resources. First, project staff revised and printed materials previously developed by the Vocational Special Needs Program for use of teacher educators in Texas. Given the scope of the project, this development of materials was limited. Nevertheless, when teacher educators expressed a growing interest in preparing courses (especially graduate courses) on the vocational training of handicapped students, program staff sought additional funding. A short summer project produced the handbook, *Instruction in Vocational Special Needs: A Resource for Teacher Educators*. This handbook presents numerous syllabi from leaders across the nation, as well as handouts, overheads, and other materials appropriate for use by teacher educators. Response to the handbook has been excellent. Although prepared under a separate project, this handbook grew out of needs expressed through contacts made under this project; this shows once again the far-reaching impact of an effective effort.

In addition to developing materials, project staff also collected resources for use by teacher educators in Texas, including modules for inservice, slide/tape series, handbooks, curricula, and other documents. At first, project staff routed information to cooperating institutions only through meetings, by mail, and by a printed newsletter. Personnel at cooperating institutions made use of project funds to acquire materials they believed most beneficial and borrowed frequently other materials from project headquarters.

But as the project progressed and the initiative was made to serve other teacher educators within Texas, project staff began to envision a lending library which would make project resources available to all educators throughout the state of Texas. Since, to be optimally accessible, such a lending library would require cataloging over 2,000 documents, with cross-referencing topically, it was decided to seek funding from the state education agency for a full-time staff member responsible for this work. This funding was provided in the summer of 1980. The materials are now catalogued; with support through the project described in this report, this information is now being transferred to a computer. This joint effort between the projects has almost guaranteed the continued use of this library not only by teacher educators in Texas, but also by teachers, counselors, diagnosticians, and other support personnel. We fully expect the state education agency to continue funding a staff member for the library, as well as to provide money for additional materials. Once again, this library would not have grown to this extent without the kernal resource room developed through this project.

It is our firm belief that if the described project were the only effort being conducted by the Vocational Special Needs Program at Texas A & M University, the project would not have been as successful or far-reaching as it has been. The most effective strategy, therefore, has been the cooperative effort of the personnel of the Vocational Special Needs Program and the state education agency on activities suggested by the project. Efforts begun by earlier projects have been carried on by this one, and in turn these efforts have been carried on by other projects and will be carried on next year through funding from the state. It is this cooperation that has extended the impact of this project far beyond its own funding and personnel and has given it the success it has enjoyed.

## PROBLEMS AND SOLUTIONS

### Cooperation Among Three Institutions

The first difficulty faced by this project, and perhaps the greatest difficulty, was imposed by the very design of the project which required the cooperation of three institutions and the project staff. To deal with this problem, one person at each of the cooperating institutions took charge of project activities. Furthermore, this person met frequently with the project coordinator to discuss the use of project assistance and materials and the achievement of project goals and objectives. This constant communication was the single most beneficial and productive tactic in solving the difficulty of cooperation. The successful meetings, those that engendered the most agreement and the most successful achievement of goals, stressed the following steps:

1. The meeting was held at the convenience of personnel at the cooperating institutions;
2. Whenever possible, administrators were in attendance at the meeting to give their approval to project activities;
3. Project staff involved personnel at the cooperating institutions in whatever way was appropriate, but kept the greatest share of the work for themselves; and
4. Follow-up for the meeting, such as meeting notes and expressions of appreciation, always reinforced the cooperative efforts.

These same tactics were used to defeat interdepartmental protectiveness or turfmanship.

### Attitudes of Vocational Teacher Educators

The second greatest barrier to the achievement of the project goals was the hesitancy felt by vocational teacher educators concerning the handicapped. Many vocational teacher educators have not taught in public schools for many years. Always sensitive to the accusation of dwelling in ivory towers, teacher educators are quick to take the negative side in this issue, hesitant as they are to assume conditions that would allow the successful inclusion of handicapped students in regular vocational classes. Most simply cannot envision a school setting where support services are provided for handicapped students; most have no idea of what those support services might be. Therefore, their security lies in reinforcing the hesitancies that their students have. Furthermore, teacher educators frequently believe that encouraging mainstreaming is tantamount to encouraging inappropriate placement--the severely retarded student rather than the mildly retarded student, the severely disturbed rather than the mildly disturbed. Given the teacher educators' extreme lack of experience, it is not surprising that they do not understand the scope of handicapping conditions, the thin line that separates the special education student from other delayed learning students, and the abilities of learning disabled students in areas other than reading or math. From this lack of knowledge and experience, therefore, comes a hesitancy on the part of teacher educators to give their preservice students a positive introduction to working with the handicapped and with the special education personnel in public schools.

This problem has been approached in the same way that it would be for practicing teachers--by seeking to increase knowledge of handicapped students and special education services and by striving to introduce positive experiences with handicapped individuals. As more and more students return to teacher educators with stories of successful teaching experiences with handicapped students appropriately placed, this problem becomes less and less evident.

### Lack of Information

Another problem has been the lack of information personnel from cooperating institutions had concerning resources. Each institution was required to build a resource library, but without information on available resources, many were unable to do so. This problem was addressed by project staff through newsletters publicizing appropriate documents, through meetings displaying films and other multimedia materials, and through suggestions by the project coordinator.

## EVALUATION

The validation of personnel preparation programs is a common concern of program coordinators, funding sources, and vocational education teachers. Therefore, whether a program is an inservice workshop, a course on vocational special needs, or a teacher education program with information on the handicapped infused into each program course, evaluation is needed.

Project staff have systematically developed two parallel forms of an evaluation instrument that assesses the knowledge vocational teachers possess about working with mainstreamed handicapped students. The developmental process involved the following steps:

1. Identifying competency domains and specific competencies needed by regular vocational teachers who work with the handicapped;
2. Determing which domains and competencies are considered most measurable with a knowledge test by experts in vocational education and special education;
3. Developing an instrument for use in evaluating knowledge of the content domains formulated in Step 2;

4. Gathering validity, reliability, and norm data on the proposed instrument.

The instrument was administered to students in undergraduate vocational programs at Prairie View A & M University, Sam Houston State University, and Texas A & M University. Pretest and posttest scores were obtained for each group. Information regarding the specific instruments or complete statistical analyses and interpretation can be obtained from the project director. Summary information is given below.

## Statistical Analyses: Base Measures

One-way analyses of variance (ANOVA) were used to determine differences among the participating universities as reflected by pretest and posttest mean scores of target students at those schools. ANOVA summary tables showing the results are presented in Tables 1 and 2.

Table 1

One-way ANOVA of Pretest Scores by University

| Source | df | ms | F | p |
|---|---|---|---|---|
| Between Schools | 2 | 41.07 | 3.25 | .04 |
| Within Schools | 73 | 12.63 | | |

Table 2

One-way ANOVA of Posttest Scores by University

| Source | df | ms | F | p |
|---|---|---|---|---|
| Between Schools | 2 | 16.40 | 1.32 | .28 |
| Within Schools | 73 | 12.46 | | |

It can be seen that, whereas there were significant differences among schools on the pretest measure, no such difference was observed among schools on the posttest measure. Mean scores by university are given in Table 3.

Table 3

Pretest and Posttest Mean Scores by University

(maximum score possible = 30)

| Participating University | Pretest Mean | Posttest Mean |
|---|---|---|
| 1 | 18.28 | 19.20 |
| 2 | 19.36 | 19.86 |
| 3 | 15.62 | 17.50 |

One-way ANOVA also was used to examine differential effects of infusion among program areas. Summary results for the pretest and posttest by program area are presented in Tables 4, 5, and 6.

Table 4

One-way ANOVA of Pretest Scores by Program Area

| Source | *df* | *ms* | *F* | *p* |
|---|---|---|---|---|
| Between programs | 3 | 55.05 | 4.72 | .005 |
| Within programs | 72 | 11.66 | | |

Table 5

One-way ANOVA of Posttest Scores of Program Area

| Source | *df* | *ms* | *F* | *P* |
|---|---|---|---|---|
| Between programs | 3 | 61.72 | 5.87 | .001 |
| Within programs | 72 | 10.52 | | |

Table 6

Pretest and Posttest Mean Scores by Program Area
(maximum score possible = 30)

| Program | Pretest Mean | Posttest Mean |
|---|---|---|
| A | 16.75 | 17.10 |
| B | 19.42 | 20.58 |
| C | 19.40 | 19.60 |
| D | 15.62 | 17.50 |
| E | --- | --- |

## Statistical Analyses: Gain Scores

Relative gain. The degree of relative change in test score (knowledge gained) across schools and program areas is presented in Tables 7 and 8.

Table 7

One-way ANOVA of Gain Scores by University

| Source | df | ms | F | p |
|---|---|---|---|---|
| Between schools | 2 | 5.56 | .81 | .45 |
| Within schools | 73 | 6.90 | | |

Table 8

One-way ANOVA of Gain Scores by Program Area

| Source | df | ms | F | p |
|---|---|---|---|---|
| Between schools | 3 | 7.03 | 1.02 | .39 |
| Within schools | 72 | 6.86 | | |

In terms of relative increase of knowledge displayed by students on the test instrument, it can be seen that no school or program achieved significantly greater improvement than any other.

Absolute gain. The degree of change in test scores within program areas by school is presented in Table 9. As indicated in Table 9, only students in program area 2 at university 1 and program 4 at university 3 displayed significant improvement in knowledge about meeting the needs of the handicapped in vocational/industrial training programs.

Table 9

Gain Scores within Program Areas and Universities

| School | Program Area | n | Means Pre | Means Post | Mean Diff. | t | p |
|---|---|---|---|---|---|---|---|
| 1 | A | 20 | 16.75 | 17.10 | .35 | .53 | .60 |
| 1 | B | 26 | 19.46 | 20.81 | 1.35 | 2.80 | .01 |
| 1 | E | | | | | | |
| 2 | B | 12 | 19.33 | 20.08 | .75 | .91 | .38 |
| 2 | C | 10 | 19.40 | 19.60 | .20 | .26 | .80 |
| 3 | D | 8 | 15.62 | 17.50 | 1.88 | 2.53 | .04 |
| | E[a] | | | | | | |
| | All | 76 | 18.32 | 19.21 | .89 | 2.89 | .004 |

[a] Complete information not available.

## Discussion of Results

Student achievement and infusion. Mean pretest scores by program area ranged from a minimum of 52 percent of questions answered to a maximum of 65 percent. Posttest means by program area ranged from 57 percent to 69 percent. For university differences, pretest mean scores ranged from 52 percent to 64 percent, while posttest means for schools ranged from 58 percent to 66 percent. For all classes in participating schools and programs, the highest real performance gain represented a mean improvement of about 2¼ questions answered on the posttest, as opposed to the pretest, on a 30-question instrument. As indicated in the section on statistical analyses, for most classes no significant achievement gain was manifested. It should be noted that gain scores were possibly depressed by the fact that some students had been exposed to vocational instruction of the handicapped in previous course work.

Implementation of infusion: approaches and personnel. Infusion efforts currently being reviewed occurred in the last year of the project. Project personnel had been strongly active as resource personnel for infusion activities, providing instruction and materials, during the first two years of the project. During the last project year, regular instructional personnel from participating program areas were encouraged to pursue infusion independently, as they would need to do in the future. Since this project was not based around a tightly controlled experimental effort, cooperating instructors were allowed to evolve their own approaches. Such approaches ranged from the review of equity legislation by regular instructors, to the presentation of comprehensive information and materials by regular instructors who had had a course in vocational special needs, to the use of resource personnel. The largest pretest mean and most significant gain was exhibited by a class who received infusion conducted mainly by a knowledgeable regular instructor but in tandem with a resource person (see Table 9, school 1, program B). The next largest gain (program D, school 3) was associated with the use of resource personnel only for infusion activities.

There are at least three factors which could possibly account for the relatively poorer results obtained by regular vocational teacher educators acting alone:

1. Workload of teacher educators. Teacher educators must juggle an already crowded course schedule. Trying to find time to "fit in" activities related to vocational special needs, much less deal with them properly, seems to be a true difficulty.

2. Lack of knowledge. Even when resource materials specific to vocational special needs are available, many teacher educators do not possess the necessary background to make effective use of them. What amounts to an area of professional ignorance prevents appropriate selection and presentation of instruction which means that real infusion did not occur at all.

3. Attitudes. Attitudes of instructors and students still represent a significant problem. Many university students have no practical knowledge related to instruction of handicapped students, are therefore unsure of their ability to work with handicapped clients, and are perhaps uncomfortable at the thought. If a student majoring in vocational/industrial education is uncertain in this fashion, or plainly negative, it doesn't take a strong effort on the part of a teacher educator to damage motivation to work with special needs students. If a teacher educator communicates a negative attitude toward vocational special needs, either directly through expressed sentiments, or indirectly through simply feeling harassed about trying to fit everything into a larger course load, college or university studnets will be influenced accordingly. It must be admitted that vocational special needs is still not a popular topic for an appreciable number of teacher educators.

## Implications

Although this project was of limited scope, the outcomes agree with what a thoughtful educator would guess: Infusion activities for teacher education classes work best when a regular instructor, with at least a modicum of knowledge related to special needs, has major responsibility for infusion but is able to call on additional expertise for support. This model makes sense intuitively, for the information then has the positive sanction of the professor and the additional credibility attached to an outside expert.

Some practical problems arise, however. In the current study, only a couple of teacher educators had received knowledge or possessed a background which equipped them to address vocational special needs instruction on a sure footing. Not surprisingly, those teachers' classes displayed the best performances when tested. The question that immediately presents itself is: What happens if or when those instructors leave that program?

Perhaps these concerns are only of short-term interest. Perhaps, in a few years, the current crop of vocational student researchers, having been exposed to vocational special needs instruction through infusion activities in their classes, will provide a future cadre of teacher educators who are competent, strong advocates of handicapped students' vocational instruction needs.

For the time being, it would seem prudent to assure the availability of expert resource personnel while continuing to encourage acquisition of vocational special needs knowledge and skills by vocational teacher educators.

It is only fair that in addition to these more formal evaluation activities, an informal assessment based on project goals and objectives should be addressed. The first set of objectives addressed the encouragement of infusion activities among vocational teacher educators, through workshops, resources, and requirements from the state education agency. Within introductory general education courses, a distinct segment of the course has been set aside for information about the handicapped. Infusion performed by vocational teacher educators, however, must, by its very pervasiveness, be done throughout their courses. We can state that vocational teacher educators have made extensive use of project staff, project resources, and project activities.

The second set of objectives addresses the accumulation and organization of resources at each of the three cooperating institutions. This has been done through the assistance of project staff. Many of these materials will continue to be available to educators throughout the state of Texas through the Vocational Special Needs Lending Library at Texas A & M University. Lists of complete holdings are available from the program coordinator.

The third set of objectives addresses the need for inservice and preservice activities. Through the project described herein and through other projects coordinated by the Vocational Special Needs Programs at Texas A & M University, extensive inservice activities have been conducted during the last three years. Local inservice activities have addressed over 3,000 vocational and special education teachers; statewide conferences have addressed over 1,000 administrators, counselors, superintendents, principals, and other support personnel; preservice activities have reached over 1,000 vocational education preservice students; and workshops have reached teacher educators from over 75 percent of the vocational teacher education institutions in Texas.

Each year of the five years that the Vocational Special Needs Program has been in existence, program staff have been encouraged by the interest within the vocationl education community concerning the education of handicapped students. Each year program staff have expressed the belief that, "This is the year for the handicapped in Texas." Each year the interest has exceeded that of the year before; this year is no exception. As funding for the project described ends, the work of the project continues in a way that could never have been anticipated or achieved without the project. Three years ago as the project began, information on the handicapped was yet to be included in certification requirements. Three years ago, little if any attention was being given to the preservice level in Texas. All efforts were addressed to the inservice of vocational teachers at the secondary level. As a result of this project, that focus on secondary levels has been broadened to include the vocational teacher educator. Because of the bold initiative of project personnel, plans are being made now to continue this expanded focus.

## RESOURCES

### Interagency Cooperation

Much of the success of this project has come from the excellent departmental and administrative support we have received from within the Texas A & M University. At the departmental level, the Interdisciplinary Education program took what began on a previous project as a soft-money position and converted it to a hard-money, tenure track position. In addition to the initial graduate courses, Interdiciplinary Education also offered two undergraduate courses in vocational special needs. At the higher administrative level, we have been fortunate to have had two deans who were extremely supportive of appropriate services for handicapped students.

At the state level, the state agency took the project's goals and made them its own, requiring, as part of every certification, information and skills related to handicapped students. The state agency has also provided funding for the personnel development activities of the Vocational Special Needs Program related to project goals. The project could have been conducted without this support, but the staff would have had to spend considerably more time encouraging preservice personnel to take an interest in information related to the handicapped.

Without the cooperative efforts of the university and the state agency, the project could not have had such a far-reaching impact, nor would we have such high hopes of seeing the efforts continue. However, this same support could have been gathered from department faculty or from graduate students, if a comprehensive personnel development program were not in force. The key is to have a source of encouragement, new ideas, and continuity for project goals, as well as people who can pick up responsibility for related activities.

### University Resources

At a more concrete level, the project has also enjoyed the resources available through the Texas A & M University System, including the university library. The central library at Texas A & M University has in excess of 1.1 million volumes, 16,000 periodicals and over 900,000 volume equivalents on micro-form. In education, it has over 800 current serial titles, or 87% of the journals indexed in the Education Index. The library is a federal repository, has an automated retrieval system operating on 40 data bases, including ERIC, and is a member of the Center for Research Libraries. The library also has sizable holdings of government documents, and is, of course, in a cooperative interlibrary loan agreement with all major institutions, including national libraries such as the Library of Congress. The university has an excellent education technology department, with whatever audiovisual equipment we have needed for our activities.

In addition, we have made extensive use of the university's computer facilities. We have rented a terminal with hook-up to the university's Amdahl 370, and we are cataloging all holdings in the Lending Library. In the future, we will be able to list materials which address any of a list of descriptors, update holdings frequently and simply and provide specific answers to requests.

## Vocational Special Needs Lending Library

The project has had the benefit of a nucleus of vocational special needs materials amassed during a previous project. This nucleus was built upon to form the current Vocational Special Needs Lending Library, with its over 2,000 volumes, numerous multimedia programs and training systems. This specialized collection has been extremely helpful in personnel development activities.

These materials can be borrowed by educators within the state of Texas. The complete catalog of materials in the library is available at cost to interested persons in other states. In addition, project staff would be glad to help institutions in other states to establish a similar library.

## Products Developed by the Project

In addition to the library holdings, the project staff have developed many products, which are available at cost. The Appendix is a listing of some of these materials. A few of the more useful products are described briefly below.

Instruction in Vocational Special Needs: A Resource for Teacher Educators by Parrish and Kok was developed to respond to requests for information on establishing courses on vocational/special education. It is comprised of information on courses and programs offered at 25 universities and includes course syllabi, handouts, overheads, and other materials. Teacher Training in Vocational/Special Education, developed at a three-day retreat, is a series of questions and responses between special and vocational teachers. Making Mainstreaming Work: A Handbook for Vocational Administrators by Clark is a guide to inservice training for vocational teachers. Organized by different categories of inservice, it gives actual activities, such as games, simulations, and case studies.

## RECOMMENDATIONS

Based on what has been accomplished through this project and based upon the difference these accomplishments have made in vocational preservice education in Texas, we offer these recommendations. First, we suggest that institutions in other states initiate cooperative efforts similar to the effort established between Prairie View A & M University, Sam Houston State University, and Texas A & M University. The increased resources available through this cooperative effort and the expanded base of experience made this effort well worthwhile.

Next, we recommend that other states use this initial consortium as a base for addressing needs of other vocational teacher educators within the state, broadening the vision beyond the first cooperative effort. The resources and manpower of the consortium can provide technical assistance to other institutions, leading to regional networks available for assistance, additional cooperative endeavors, and inservice activities.

In addition, we recommend statewide gatherings for vocational teacher educators. The first statewide workshop we sponsored essentially provided information and heightened awareness of the handicapped movement; the second allowed teacher educators to meet with special education specialists to identify exactly what they would need to include in their preservice courses. This approach has worked extremely well for us; we recommend it for other states.

We also recommend that other states begin to build resource centers for teacher educators. The Lending Library initiated through this project followed the model of the Wisconsin Vocational Studies Center, which has enjoyed extensive use by educators, parents, advocates, and handicapped individuals in Wisconsin. While use of the library will extend beyond teacher educators, the library will nevertheless be instrumental in continuing the effort of the project by providing assistance to preservice courses.

Although the development of personnel to provide vocational training to handicapped students requires providing inservice to secondary teachers and support personnel, we have discovered that neglecting the inservice of vocational teacher educators is neglecting a vital link in the educational system. We recommend, in conclusion, that other states speedily address this population if they have not already done so.

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# APPENDIX

## Products Developed by the Vocational Special Needs Project
## Texas A & M University

These materials can be ordered at cost from the project. A price list and order form is available from the authors.

Assisting Handicapped Students in Vocational-Technical Programs in Community Colleges.

Building Toward More Effective Training for Special Needs Students--Conference Proceedings, 1980.

Clark, D. (Ed.). Making Mainstreaming Work: A Handbook for Vocational Administators.

Foley, T. Final Report: Inservice Professional Development for Personnel Serving the Handicapped in Texas Through Secondary Career/Vocational Education.

Foley, T. and Clark, D. Access Strategies for the Handicapped in Vocational Education: Final Report.

Foley, T. and Kok, M. Federal Assistance for Vocational Education: Analysis of the Federal Regulations for the Vocational Education-Amendment of 1976 (P. L. 94-482).

Gish, R. The Role and Function of Texas Youth Council.

Hull, M. Employment of the Handicapped in Federal Agencies, Organizations, and Installation.

Hull, M. (Ed.). Encouraging Career Opportunities Unlimited Through Education and Rehabilitation. Conference Proceeding, 1978.

Hull, M. Programming for the Handicapped. Conference Proceedings, 1977.

Hull, M.; Barry, O.; Clark, D.; and R. Gish. Teaching Vocational Skills and Concepts to Students with Special Needs.

Hull, M. and Foley, T. Nondiscrimination on the Basis of Handicap: Analysis of the Federal Regulations for Section 504 of the Rehabilitation Act of 1973 (P. L. 93-112).

Kok, M. Specifying and Writing a Daily Lesson Plan.

Kok, M. (Ed.). Team Leadership Training in Vocational Special Needs. Conference Proceedings, 1979.

Kok, M. The Texas Rehabilitation Commission: A Review.

Kok, M.; Jernigan, J.; and Hull, M. Identifying Learning Styles and Complimentary Teaching Methods.

Mayfield, B. and Hull, M. The Cooperative Work-Study Program.

A Model VEH Program.

O'Keefe, A. Barriers to Employment for the Handicapped.

O'Keefe, A. Determining Readability Levels.

O'Keefe, A. Teaching the Mildly Retarded--The Developing Role of the Regular Classroom Teachers.

O'Keefe, A. Vocational Education for the Handicapped: A Brief History.

O'Keefe, A. and Kok, M. Learning Disabilities.

Pandy, S. Group Behavior Modification for the Handicapped.

Pandy, S. Individualized Behavior Modification.

Parrish, L. Developing IEPs.

Parrish, L. Mainstreaming.

Parrish, L. and Kok, M. Instruction in Vocational Special Needs: A Resource for Teacher Educators.

Vocational Education for Handicapped Persons: A National Priority.

# A MASTER'S DEGREE PROGRAM IN VOCATIONAL/SPECIAL EDUCATION

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## PROJECT OVERVIEW

The Vocational/Special Education Master's Degree Program at the University of Michigan is a combined 30 hour sequence using the faculty and resources of two separate programs within the School of Education: Occupational Education and Special Education. The two-year competency-based program was designed to meet the needs of educators faced with the dual task of providing vocational education for the handicapped. The program is geared for those persons currently in, or desiring to assume, teaching or leadership positions in career and vocational education for the handicapped.

This is not a joint degree program. Depending on prior experience, certification, and interest, prospective students apply to either Occupational Education or Special Education. Upon admission, individualized programs are established with the trainee majoring in occupational education or special education with the possibility of additional coursework leading to certification in one area of special education. Participants working toward this concentration have had previous experience not only in vocational and special education, but also in such areas as guidance and counseling and vocational rehabilitation.

Although there is an opportunity for the advisor and student to establish individualized objectives which reflect the student's professional interests and skill levels, the program for every student includes the following:

- A sequence of academic courses in vocational education and special education;
- Experiences to develop professional sophistication in the translation of research into practice;
- Opportunities to design, conduct, and evaluate experimental programs of interventon in educational settings; and
- Experiences in the communication of ideas, including professional writing and oral presentations.

### Program Goals and Objectives

The primary goal is that participants acquire skills and leadership abilities essential for working with handicapped students at the secondary level.

Additional goals include providing a vocational concentration to students interested in a master's degree program in special education, and providing a special education concentration (and possible special education certification) to students interested in a master's degree program in vocational education.

Two innovative features of the program are that it a) focuses jointly on pedagogical and leadership skills and b) recruits personnel with previous training in vocational education or special education who currently fill educational roles where they can apply newly acquired skills.

In order to achieve the overall goals of the Vocational/Special Education program, six major objectives were identified:

1. To establish an advisory committee composed of consumers and professional to provide guidance and feedback to the program;
2. To develop a 30 hour master's level sequence combining the resources of the Occupational Education and Special Education programs at the University of Michigan;
3. To recruit educational personnel with previous experiences in vocational and special education who will be committed to increasing the vocational and career options of handicapped students;
4. To design and pilot a comprehensive, competency-based training program to train personnel to increase the vocational/career options of handicapped students;
5. To evaluate the efficacy of the training program and assess its impact on program graduates, their educational environments, and the students they serve; and
6. To disseminate information about the program and its effectiveness to professionals and consumers at local, state, and national levels.

The Appendix gives the subobjectives and a brief overview of project activities by objectives.

There are currently 32 trainees enrolled in the program. These students, almost all of whom are concurrently pursuing careers, brought an average of eight years of outside work experience to the campus setting. The diversity and interest areas of their present roles suggests the wide appeal of this program to a broad spectrum of the educational establishment. Current students' occupational roles include: teacher consultants; resource teachers for physical, emotional and mental impairments; and classroom teachers in business administration, auto mechanics, pre-vocational and career education. Similarly, the students are employed in an equally varied number of settings, most notably: intermediate school programs, regular secondary schools, skills centers, and inpatient facilities, all spread over a wide geographic area.

It is expected that, based on the experiences encountered in the program, graduates will provide direct services to the handicapped or advance to consultative or administrative positions in the area of vocational/special education.

# STRATEGIES

## Competency Development

A set of 13 competencies and 62 mastery statements needed by vocational/special education personnel was developed. The mastery statements were useful in determining the extent to which students had demonstrated competency in each of the areas identified. The 13 competencies are as follows:

1. Legislation. The trainee will demonstrate a knowledge of the purpose, applicability, and general provisions of federal, state, and local legislation and guidelines as they relate to the general and vocational education of handicapped and special needs students.

2. Disability characterisitics. The trainee will identify the types and levels of impairments and demonstrate a knowledge of learning characteristics and social implications associated with each.

3. Least restrictive program options/mainstreaming. The trainee will demonstrate an understanding of the concept and intent of least restricitive environment as it relates to vocational and career education of handicapped students and as it relates to attitudes.

4. Interdisciplinary/interagency cooperation. The trainee will demonstrate a knowledge of the components of a comprehensive continuum of education/habilitation services for handicapped students and the roles of various agencies and professionals.

5. Assessment. The trainee will demonstrate a knowledge of handicapped students' growth and developmental expectancies compared to normal developmental and achievement expectancies.

6. Individualized plans. The trainee will demonstrate a knowledge of the provisions for, and assurances of, individualized education and assurances of, individualized education and habilitation plans for handicapped students.

7. Program development. The trainee will demonstrate a knowledge of the goals, issues, options, and strategies for providing individualized instructional programs for handicapped youth and young adults.

8. Program implementation. The trainee will demonstrate skills in analyzing and adapting the physical, social, and instructional aspects of the vocational learning environment which provide optimal learning situations for handicapped students.

9. Instructional and program evaluation. The trainee will demonstrate the ability to design, implement, and utilize evaluation procedures to assess individual student progress, and instructional and program effectiveness for special needs students.

10. Linguistic/cultural differences. The trainee will demonstrate knowledge of the impact of language or cultural differences and communication impairments on the learning and vocational choices and success of handicapped students.

11. Sex-role stereotyping. The trainee will demonstrate an understanding of the issues, patterns, and implications of sex role-stereotyping on the educational and vocational expectancies and choices for handicapped students.

12. Staff development/consultation. The trainee will demonstrate skills in assessing needs for consultative service and design a plan for delivering and evaluating such services.

13. Professional development. The trainee will engage in self-management and self-improvement activities that increases their personal and professional effectiveness.

The competencies were developed based on information gained from the advisory committee, local vocational/special educators, and various national meetings and conferences. In order to validate the competencies, a statewide study was conducted with three groups of vocational educators, special educators, and special needs personnel. Administrators, coordinators, and direct service personnel were included. The purpose of the study was to determine the extent to which these persons agreed that the identified competencies were important and comprehensive.

## Course Requirements

The 13 competencies were integrated into the existing curriculum offered by the Occupational and Special Education programs, including field work and other related course requirements. Given the strong emphasis on program and instructional design in Occupational Education and the focus on specialized approaches for those with handicaps it was not necessary, nor feasible, to create a series of new coureses. One reorganized seminar served as the focal point for the first offering, and students then attained competencies as they enrolled in various courses.

A number of courses were identified for particpants in the program. These courses were divided into four categories:

1. Specific program requirements. The basic requirements for each program were identified, consolidated, and shaped to accommodate this new thrust. Required were a seminar centering on the competencies and a practicum experiences focusing on working with handicapped individuals receiving vocational services.

2. Core courses. The participants are required to complete 12 hours of core courses in Occupational and Special Education including offerings such as Occupational Education in Community Schools, Research in Occupational Education, Assessment Strategies/Practices for Children with Learning Problems, and Remedial Practices for those with Learning Difficulties.

3. Electives. Participants are encouraged to complete six hours of electives in the School of Education which will support their interest in vocational/special education. Options include courses in disability areas, other courses in occupational education, counseling, bilingual-bicultural education, and vocational rehabilitation.

4. Cognates. Participants are required to elect ten hours of courses within the university that have a relationship to vocational/special education (e.g., social work and psychology).

## Advisory Committee Meetings

In order to ensure that all programs and course requirements are appropriate, ongoing input is provided by an advisory committee composed of community leaders, public school and university personnel, parents, disabled individuals, and state level representatives of vocational educational, special education and vocational rehabilitation services. The advisory committee was involved in the development of the thirteen competency statements and the mastery tasks which form the basis of the program. The establishment of an advisory committee and the development of the advisory committee handbook proved to be an effective strategy because of the up-to-date, ongoing input and feedback which was provided to the program. The input provided by the advisory committee represented problems in the field and encompassed ideas that might not have been presented by professionals at the university.

The membership of this committee represented exceptional talent and leadership in the field. Since the Michigan State Department of Education was represented by the heads of Special Education, Vocational Education and Vocational Rehabilitation there was an informal sanction and recognition of the program. Key consumers and personnel in the field were members and leaders of new programs participated. Several subsequently became students in the program providing important information on current needs.

## Handbook Development

Two handbooks were developed during the 1979-80 school year: The Student Handbook and The Competency Handbook. The Student Handbook served as an agreement between the two programs. All requirements, resources, and worksheets were included. Therefore, faculty unfamiliar with the alternative field had a ready source of information. This handbook greatly facilitated advising since it provided an overview, acquainted all students with requirements and procedures, and structured the planning and managing of their individualized programs. In addition, the handbook was sent in response to inquiries about the new program. The Competency Handbook described the thirteen competencies and 62 mastery statements identified as being essential for vocational/sepcial education personnel. The Competencies provided a consolidated set of tasks which trainees could use to integrate their coursework and to structure individualized work.

## Program Scheduling

One effective strategy that aided in making the combined program a success was the method of scheduling courses. Both core courses and required electives were scheduled in such a way that there was a great deal of interaction between the vocational and special education students and between students and staff. In addition, several of the doctoral students in both programs were included in various educational and social activities.

## Instructional Resource File Development

The development of the resource file began during 1979-80 school year. At this point, the file includes books, articles, annotations, and materials from both state and national resources. Students enrolled in the required vocational/special education seminar in the summer of 1980 utilized the resource file and have continued to use the file for related information in various other classes. Plans are underway to organize the vertical resource file according to the thirteen competencies identified for the Vocational/Special Education program. The resource room has also served as a useful meeting place for students and staff.

## PROBLEMS AND SOLUTIONS

### Time

There was an extremely limited time period available prior to program initiation. For example, the organization of the advisory committee occurred simultaneously with recruiting, admission, and advising activities. One solution to the time constraints was the use of multi-purpose group meetings conducted for enrolled as well as prospective students. Activities such as program introduction, recruitment, needs assessment and advising were conducted in one Saturday morning session.

### Interpersonal Interaction

Recognizing that a new program led by faculty who had not previously collaborated might have communication problems, a central resource room was established for conferences, work sessions, and use of the resource file. This tactic greatly facilitated communication and sharing among faculty, staff, and students. In addition, several social events were scheduled to provide time for students and faculty to become acquainted.

### Certification

Several special educators desired certification in vocational education. Because of extensive and specialized requirements in vocational education this was impossible. We therefore created a 10 hour concentration in occupational education courses and advised students to attend specialized vocational courses (e.g., auto mechanics) at other universities or community colleges.

Individualized and supplementary programs were designed for vocational educators wishing special education certification to encourage tension free interaction and discussion. Procedures for processing and sharing information and memos were established.

### Budget

Initially we lacked clear procedures for requesting and approving expenses for supplies and materials. To avoid confusion and conflict between the two programs, budgetary responsibilities and procedures were clearly defined for each of the coordinators. One clerical person was assigned to monitor the budget and maintain financial records.

## EVALUATION

### Design

Evaluation, the process of collecting and using information to make educational decisions, is an ongoing activity for the Vocational/Special Education Project. Using the concepts of formative and summative evaluation, we attempted to operate an "adaptive system." Such a system continuously assesses its performance to improve instruction, judge effectiveness, and ascertain the significance of that performance to relevant consumers and decision makers.

Judgments are made concerning maintenance or modification of program components in relation to two basic questions: (a) To what degree are program objectives attained? and (b) How significant is our program to others external to the School or University?

Since this evaluation model is designed as an adaptive system, it views each component within the training sequence as a series of processing and receiving systems. Each of the four sub-systems (trainee, courses, field experiences, and educational community) gains information about performance which then provides feedback on the attainment of objectives and the significance of the program to various consumers. The first three sub-systems are concerned with short-term, university-related activities. The fourth sub-system is concerned with events or perceptions that occur on a long-term basis outside the university community.

Trainee. The first sub-system used self-report information, assessment on competency tasks in practica, results from course work, tests, and interactions with peers and faculty.

Courses. The second sub-system includes review of trainee performance in course work as measured by papers, tests, logs, and class involvement and faculty performance as indicated by School of Education instruments.

Field experiences. The third sub-system looks at the results of trainee performance in practica and other field work. Decisions are based on evaluative data on the affect and skills of students as viewed by on-site teachers, administrators, or university supervisors and faculty.

Educational community. The final sub-system reviews the evaluation within the educational communities and is an external and long-term process which uses information on the performance of alumni and faculty in the larger educational context.

In regard to evaluation by the professional and school communities, the sources of information used for program evaluation include: (a) surveys of graduates' professional placement in terms of jobs, level of responsibility, length of employment, and number of students served; (b) the value of their training in relation to success in their roles; (c) assessment of graduates' job competence and potential for future work by their supervisors' evaluations, (d) the opinions and employment requests by local state or community agencies as to the relevance and usefulness of the program; (e) reviews by committees external to the University; (f) evaluation of inservice or faculty work at professional meetings; (g) reviews or use of professional publications; and (h) grants or funds allocated to the program by outside agencies.

This model attempts to (a) determine the short-term effects of training, (b) ascertain the long-term effects of the program in terms of contribution of leadership personnel in the field, and (c) document the impact on the lives of handicapped children and young adults.

Instruments, such as questionnaires, observation forms, self report assessments, and follow-up surveys, have been prepared for each level of training.

## Impact

Program evaluation and impact is being assessed on an interim basis. A 75-item survey has been administered to the trainees and this data is currently being analyzed. The purpose of the survey is to determine to what extent students feel they have benefited from the combined program thus far.

Evaluations indicate that the courses offered to date have been positively viewed by students. For example, evaluation data from the summer seminar indicated that over 90 percent of the class felt that it was an excellent course. Additionally, both vocational and special education students felt they had learned a great deal from the course and were motivated to learn more about the 13 competencies covered.

Pretest and posttest data were collected from students enrolled in the fall 1979 seminar which was pilot tested in Flint, Michigan. Similar data were collected from the summer 1980 seminar taught in Ann Arbor. Data analysis is currently underway to determine the extent of students' knowledge in the vocational/special education area before and after involvement in the required seminar.

## Indirect Benefits

There are several indirect benefits that have been observed relating to doctoral training, faculty professional development, and expanding interest within the School of Education.

First, doctoral students in occupational and special education and educational psychology have become interested and involved in vocational education for the handicapped. For example, one doctoral student in learning disabilities elected four occupational education courses and, as a course assistant, is helping to infuse career and vocational education into the special education master's degree methods course. Three occupational education trainees have selected special education topics for their dissertations while two doctoral research assistants from educational psychology will be presenting papers related to vocational/special education at a state-wide educational research conference. These incidents indicate the unanticipated impact of this master's degree project on doctoral students.

Another benefit accrued from the project has been the professional development of the faculty--the project directors as well as others in the school. This has occurred from attendance at inservice presentations at local or intermediate school districts or at programs sponsored by professional groups (e.g., Council of Exceptional Children and American Vocational Association) or federally funded projects (e.g., Project Retool). These presentations have broadened and deepened the knowledge of each other's fields. Other sources of enlightenment were visits to field sites, reviews of various texts and course materials, and interaction with various consultants.

Still another benefit is that the project has functioned as a catalyst within the school. For example, when Nathan Azrin, noted behavioral psychologist, presented a two-session program on "The Job Finding Club," representatives from rehabilitation counseling, vocational rehabilitation, the Comprehensive Employment and Training Act, guidance and counseling, mainstreaming, social work, and psychology were in attendance. The program was jointly sponsored by the programs in Vocational and Special Education, Institution for the Study of Mental Retardation and Related Disabilities, Washtenaw Intermediate School District, Student Council for Exceptional Children and the University of Michigan Applied Psychology Laboratory.

## RESOURCES

### University of Michigan

The Ann Arbor campus includes seventeen schools and related research and education units as follows: 31 centers, 19 institutes, 3 bureaus, and 9 hospital units, all of which perform service and instructional roles as well as research activities.

Of special relevance are the institutes, centers, and teaching departments whose work is related to the project, including the Mental Health Research Institute, the Center for Human Growth and Development, the Center for Research on Learning and Teaching, the Institute for Social Research.

Trainees work most closely with staff and projects at The Institute for the Study of Mental Retardation and Related Disabilities (ISMRRD). This is an independent university affiliated facility that provides interdisciplinary assessment, treatment, and, in some cases, follow-up services for developmentally disabled individuals of all ages. In addition, program staff representing various disciplines (e.g., occupational therapy, psychiatry, psychology, and social work) conduct special training research projects which provide valuable training opportunities. For example, Vocational Technology for Cerebral Palsy Individuals is a project demonstrating a model of prescriptive services essential to the assessment and vocational adjustment of adolescents and young adults within the community.

Support services provided by the administration and other programs in the School of Education were essential to the development of the program. For example, financial aid and technical assistance were provided by the Associate Dean for Research in the School of Education. Such assistance included a research assistant to analyze needs assessment data, collect and analyze evaluation data, and validity competencies. In addition, resource materials and information were provided by staff involved in the Dean's Mainstreaming Project and the Vocational Rehabilitation Program.

Two other University resources deserve special emphasis: the University Library and the Computing Center. The library system contains more than 5,000,000 volumes and another several hundred thousand in microtext housed in the Harlan Hatcher Graduate Library, the undergraduate library, 21 divisional libraries, 7 departmental and area collections, and four special libraries. It is one of the nation's great scholarly libraries. In addition to its collections of bound circulating volumes, the library maintains a 10,000-volume noncirculating reference library and some 8,000 periodical and serial publications.

The Computing Center has an AMDAHL 470V/6 computer connected to 200 remote terminals, including several in the School of Education. Authorized users can also gain access to the computing center through an audio-response activiated by touch-tone telephone signals. A wide variety of computer languages can be used and a vast number of software systems and data bases are available.

## Community

Ann Arbor Center for Independent Living, Inc. The Ann Arbor Center for Independent Living is a consumer-directed agency providing supportive independent living services to severely physically handicapped individuals in Washtenaw County. One of the overriding objectives of the center is to develop a training program focusing on self-care and daily living skills; peer-resource counseling; human sexuality; community resource accessibilty; job orientation and preparation; recreation and leisure living. The Center offers an outreach program to the community and also works in consultation with local schools and universities.

Hawthorn Center. The Hawthorn Center is a psychiatric residential and outpatient treatment facility for emotionally impaired children. The children range in age from nursery through senior high; 150 are inpatient children and over 100 children are in the day school. The school initiated a prevocational program in 1966. This was designed to acquaint learning disabled adolescents with a variety of occupational experiences which might stimulate their interest in realistic career choices. A work experience center providng the equivalent of public school work-study program was added in 1972. This comprehensive mental health facility serves as a clinical internship site for our trainees.

The Washtenaw Intermediate School District (WISD). This district is a regional educational agency serving 10 different school districts within a 20-minute drive from Ann Arbor.

The basic goal of WISD is to provide the leadership to equalize educational opportunities for all the school age children of the district through cooperation with local school districts and the Department of Education of the State of Michigan.

Trainees have access to the services of consultants in areas such as career education, tests and measurements, and curricula for the handicapped. Trainees can also visit programs that relate to juvenile detention, speech therapy, diagnostic services, instruction, vocational rehabilitation, emotional impairments, special education evaluation services, computer assisted instruction, and many others.

There are numerous inservice and staff development activities which are conducted by the consultant staff at WISD in cooperation with special education teachers from local districts. Curriculum materials which have resulted from these activities are available to trainees.

Instructional Materials Center. The Instructional Materials Center houses an extensive collection of instructional materials and equipment, professional resources, periodicals, and assessment instruments. Trainees have access to these resources, especially those related to career pre-vocational, and vocational education for the handicapped.

Consultants in this area have served on our advisory committee, reviewed competencies and curriculum, visited several classes, and supervised practica. The project benefits immeasurably from these services.

## Project Materials

The Vocational/Special Education Project at the University of Michigan has developed the following materials:

* Program Handbook: a description of the master's sequence including course requirements, procedures, and assorted worksheets.

* Competency Handbook: a listing of 13 major competencies and related subcompetencies.

* Faculty Handbook: a series of worksheets that list the 6 major program objectives with related activities and results, and the task sheets and timelines related to each objective.

* Curriculum Guide: a matrix listing each competency and subcompetency and the course in which each is mastered. Syllabic and selected materials are included.

Information on ordering these materials may be obtained by writing the authors (see address at the end of the article).

# RECOMMENDATIONS

The major goals and objectives of this new combined inservice program are being attained. Within two years the following have been accomplished: three students have graduated and 32 trainees are enrolled; competencies have been developed and are undergoing a state-wide validation procedure; materials and resources have been assembled; and the program is recognized as relevant and productive by students, community and governmental agencies, and other professionals.

To replicate this type of program development, the following recommendations are offered:

- Leadership and staff must represent both disciplines, i.e., vocational and special education, and time must be provided to develop working relationships.
- Input and feedback must be sought from a broad representation of community members including consumer groups, parents, local regional and state agencies, professional organizations, and related programs and projects within the college. A formal advisory committee should be established at the initial planning stage.
- Input (e.g., needs assessment and interviews) should be sought from prospective and enrolled students.
- Opportunities should be provided so that networks emerge between students and other professionals within the field.
- Resources (e.g., needs assessments, attitude questionnaires and curriculum materials) from other programs around the nation should be accessed.

The Competency Handbook is the product of this project which would be most useful to others. The entire set of competencies could provide the framework for program development at the preservice or inservice level while an individual competency could be used in an already existing special or vocational education course.

Conjoint ventures, like this project, are most easily adopted in a context where there are already existing resources in both disciplines. For example, the University of Michigan has a long history of involvement in occupational and special education. Courses in both areas have been offered for over 60 years and each had offered comprehensive certification and degree programs. The university, as the states oldest institution of higher learning, also has numerous resources to support this type of combined program.

Program developers lacking this type of history and support system might be well advised to collaborate with other colleges (including community colleges)--perhaps developing a state or regional consortium.

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## Appendix

Objective 1: To establish an advisory committee of consumers and professionals to provide guidance and feedback to the program.

| SUBOBJECTIVES | ACTIVITIES | RESULTS | DATES |
|---|---|---|---|
| 1.1 Provide information and guidelines to committee members. | Developed a handbook for advisory committee members. | Distributed handbooks and brochures to committee. | 8/1979 |
| 1.2 Identify a variety of possible advisors. | Identified and contacted individuals or consultants to serve on or assist an advisory committee and faculty with program development. | twenty-five (25) telephone calls; twenty to thirty (20-30) letters sent. | |
| 1.3 Establish an advisory committee. | Mailed program description and purpose to personnel from local, intermediate and state agencies and individuals from consumer, parent, advisory and student groups, requesting their participation. | eleven (11) member committee formed. | 8/1979 |
| 1.4 Conduct meetings and maintain communication. | Received assistance with defining roles, identifying and revising competencies and identifying practicum sites. | two (2) meetings<br>seven (7) meetings. | 1979-1980<br>1980-1981<br>five (5) mailings |

Objective 2: To develop a thirty (30) hour masters sequence combining the resources of the Occupational and Special Education Programs.

| SUBOBJECTIVES | ACTIVITIES | RESULTS | DATES |
|---|---|---|---|
| 2.1 Identify requirements of each program and incorporate these with School and University guidelines. | Specified core courses, required credits for each component, possible cognates and electives for 30 hour program. | 50 Handbooks published and used for advising and recruitment. | 10/1979 |
| 2.2 Create a resource file for faculty and student use. | Identified materials, tests for purchase. Collected critical manuals, texts, journals, articles and materials. Organized resource conference room. | Annotated bibliography, Vertical file, Collection of print/non-print forms and media. | 11/1979 |
| 2.3 Develop a new seminar. | Addressed competencies in a summer seminar. Used materials from resource and related projects in the School of Education. | Students enrolled and evaluated the course positively. | 1/1980 |
| 2.4 Use resources within the School and University. | Met with related programs (e.g. Guidance & Counseling) and sponsored projects (e.g. Dean's Grant on Mainstreaming. Project Directors presented information at student seminars. | two (2) meetings<br>four (4) meetings<br>Collected relevant information. Presented new ideas. | 1979-1980<br>1980-1981<br>1980 |
| 2.5 Develop practicum experiences. | Identified possible sites. Contacted site personnel. Placed trainees. | Placed students at different sites. Experiences rated positively. Utilized evaluation of practicum placements in identifying future practicum sites. | 1979-1980 |
| 2.6 Utilize results of a State-wide Needs Assessment and Inservice Project Evaluation | Collected data from special needs personnel across the state. | Revised some aspects of the curriculum. | 1979-1980 |
| 2.7 Infuse new concepts into other programs and courses. | Provided guest lecturers. Provided critical journal articles, specialized materials or relevant media on vocational/special education. | three (3) presentations were made: 2 at undergraduate classes and one (1) in a masters course | 1979-1980<br>1980-1981 |
| 2.8 Gain expertise from recognized leaders. | Invited consultants from intermediate, state or national organizations. | ten (10) consultants from intermediate districts and universities have presented.<br>One (1) consultant presented (Azrin). | 1979-1980<br>1981 |

Objective 3: Recruit educational personnel with previous experience in vocational and special education who will be committed to increasing the vocational and career options of handicapped students.

| SUBOBJECTIVES | ACTIVITIES | RESULTS | DATES |
|---|---|---|---|
| 3.1 Conduct a state-wide recruitment campaign. | Printed 400 Brochures. Mailed 250 to agencies, schools, organizations. Distributed to faculty. Distributed at inservice programs. | Answered requests for program information, applications and admission procedures. | 8/1979 |
| 3.2 Admit qualified students with previous experience in special education, vocational education and related fields. | Designed interview format; interviewed, screened and admitted students | 8 trainees<br>24 trainees<br>32 trainees | as of<br>5/1979<br>9/1980<br>1/1981 |
| 3.3 Provide financial assistance. | Developed forms for stipend reimbursements, transcripts and course elections. | $2,000 awarded<br>$4,000 awarded | 1979-1980<br>1980-1981 |
| 3.4 Conduct informational meetings with students. | Provided bulletins, brochures. Allowed for sharing information and refreshments. Gained information from students on needs, competencies, concerns, and availability of field sites. | 4 meetings conducted yielding a close/cohesive group. | 9/12/1979<br>8/1980<br>4/1981 |

Objective 4: To design and pilot a comprehensive competency based training program to train personnel to increase the vocational and career options of handicapped students.

| SUBOBJECTIVES | ACTIVITIES | RESULTS | DATES |
|---|---|---|---|
| 4.1 Identify basic set of competencies. | Examined competency list prepared by state-sponsored committees, other states and universities. Examined the professional literature. | Developed a preliminary list of competencies. | 1979-1980 |
| 4.2 Review/revise competency list. | Provided competencies to Advisory Committee and other reviewees (e.g. other project directors) for feedback and revision. | Develop a Competency Handbook including 13 competencies and 74 subcompetencies | 1980 |
| 4.3 Validate competencies. | Conduct a study. Sample includes teachers and consumers across the state and some input from national sources. | A list of competencies viewed as important by professionals and consumers. | 1980-1981 |
| 4.4 Integrate competencies into existing course offerings. | Review courses and identify competencies and subcompetencies which should be addressed within each course. Allow for individualization. | 5 courses now include opportunities to complete competencies. Other courses will be developed and/or redeveloped | 1979-1980<br>1980-1981 |

Objective 5: To evaluate the efficacy of the program and assess its' impact on program graduates, their educational environments and the individuals they serve.

| SUBOBJECTIVES | ACTIVITIES | RESULTS | DATES |
|---|---|---|---|
| 5.1 Design an evaluation model which provides formative and summative information. | Reviewed the literature. Drafted the design, sequenced tasks and established a time table. | Feedback forms outlined for each evaluation task. | 1979-1980 |

| | | | |
|---|---|---|---|
| 5.2 Evaluation program efficacy. | a. Conducted formative evaluation: | | |
| | - Plot progress toward goals | goals are being met | 1979-1980 |
| | - Evaluated courses | courses received excellent ratings | 1979-1981 |
| | - Conducted needs assessments<br>- Administered interim program evaluation | information used to revise revise class offerings | 1979-1981 |
| | - Reviewed unobtrusive indicators | 5-10 Ph.D. students involved | 1979-1982 |
| | b. Conduct summative evaluation | | |
| | measure quality and quantity of competencies mastered | goal: 90% of trainees complete 90% of competencies with 90% mastery. | 1981-1982 |
| | measure attitudinal change for trainees and faculty | attitudes maintain degree positiveness or increase. | 1981-1982 |
| | conduct a 3 year program evaluation | survey trainees | 3/1982 |
| | conduct external evaluation | survey community leaders | 3/1982 |
| 5.3 Evaluate program impact. | Conduct a follow-up survey of graduates. | survey form designed | 1979-1980 |
| | Survey employees or supervisors of graduates. | permission forms designed | 1979-1980 |
| | | survey to be conducted. | 5/1982 |
| | Assess impact on handicapped individuals. | study to be designed | 1981-1982 |
| | Survey other professionals and community leaders. | forms to be designed. | 1981-1982 |
| | Identify unintended direct or indirect results. | log is maintained. | 1979-1982 |
| 5.4 Use evaluation results for program/instructional modifications. | Revise courses, handbooks and/or competencies. | | 1982 |
| | Refine and package program for replication. | | |
| 5.5 Conduct and integrate related research projects. | Conduct a state-wide study to validate the competencies | Study designed.<br>Study in progress. | 1979-1980<br>1980-1981 |
| | Integrated results of a state-wide needs assessment of special needs personnel. | Competency list revised.<br>Course materials updated. | 1980-1981 |
| | Design a longitudinal study of employability of handicapped students. | To be designed and funded. | 1981-1982 |

Objective 6: Disseminate information about the program and its' effectiveness to professionals and consumers at local, state, and national levels.

| SUBOBJECTIVES | ACTIVITIES | RESULTS | DATES |
|---|---|---|---|
| 6.1 Exchange information to other professionals within the state and across the nation. | Described the program at state-sponsored meetings (e.g. Advisors on teaching disabilities, Special Education Personnel Development Advisory Committee). | 4 meetings | 1979-1980 |
| | Described the program at national and federally sponsored meetings (e.g. Consortium for Research of Special Populations, BEH Project director's meetings). | 3 meetings<br>2 meetings | 1979-1980<br>1980-1981 |
| | Distributed copies of handbooks. | 25 Handbooks mailed | 1979-1980 |
| 6.2 Increase awareness to potential students, the professional community and consumer groups. | Described the program in professional newsletters (e.g. Michigan Occupational Special Needs Newsletter). | 2 articles | 1979-1980 |
| | Distributed brochures and described the program in course and conferences. | 5-6 courses<br>Council for exceptional children<br>Special needs Inservice workshops | 1979-1981 |
| | Described the program in parent newsletters, advocacy literature and community media. | 2 articles in newsletters.<br>1 newspaper article<br>1 radio spot | 1979-1981<br>1980-1981 |